NATURAL GAS TRANSPORTATION SYSTEM

3-31-82

(KIDDER PEABODY FINAL REPORT)

Hearing - Juneau
February 17, 1982

Betty Fahrenkamp: I would like to call this overview to order, and first thing off thank those of you who have agreed to participate today on such short notice, we really appreciate it. As most of you know, today's overview hearings are co-chaired by the Senate Resources Committee, and by the House Oil and Gas Committee, and the charge before us today is to gain an insight to be brought up to speed with regard to the progress and movement towards the possible financing of the construction of the Alaska National Gas Transportation System.

We approach today's hearing with a sensitivity that at this point negotiations are ongoing between Northwest Alaskan Pipeline, the national and international banking community and the North Slope producers. Today's focus is on information and education within those constraints, both of which are necessary for all parties to understand their roles and actions in ultimate completion of the project. This hearing, in nature of an overview, will be followed by additional hearings dealing with broader questions of policy and mechanics of the financing participation of the State, and the financing of the project.

As a point of background, in late November Governor Hammond recognized the need for the State to seriously consider its position vis-a-vis the construction of the Alaska National Gas Transportation System. The Governor organized a task force to specifically look at the general questions of the advisability of State participation in the financing of the System. The task force was constituted of Commissioners from the Department of Natural Resources, Revenue, the Attorney General, a couple of the Representatives from the House, representatives of Alaskans, and myself.

Our first witness today will be Commissioner Katz, and it is my understanding that he will be giving us overview of the task force basic charge and outline the task force activities to date in approaching the issue of State participation in the financing of the Alaska Natural Gas Pipeline. We also have with us representatives of Northwest to give us an overview of their efforts to secure a financing package and an update of their progress inasmuch as possible under their negotiation constraint. Representatives of the North Slope producers will address, from their perspective, just where the financing package is, as well as address technical questions related to the question of the effect of continuing re injection of natural gas to the Prudhoe Bay field, and finally, we'll have interim report from the representatives of Kidder Peabody, an investment banking firm retained by the State to address the questions of financial feasibility of the project, and general questions of how the State's interests may be best served in the participation. With that out of the way, Rick, do you have anything to add?

Rick: I think I would just reiterate that we do understand the negotiating position that most of the participants are in, and I think it's important that we maintain a sensitivity to that negotiating position. I would hope that we get an adequate update of where we are and

maybe we can define some of the alternatives without prejudicing any future options that may be presented at a later date in the future reports.

Fahrenkamp: I think the procedure we'll follow is to have each group make their presentation, then we'll have questioning after each presentation, and we hope to be finished by 4:30 since the majority of my committee, I know, are catching planes for the coal conference in Anchorage and need to have me to be gone. Commissioner Katz?

Katz: Thank you, Madame Chairman. .....to the current efforts is a letter that President John McMillian .....Governor in late November asking that the State reconsider its position on participating in the financing of the gas pipeline project. As a product of that letter the Governor, as you have already indicated, is the forming of a task force of the three Commissioners you mentioned and asked that the President of the Senate, the Speaker of the House, to make acquaintance as well, which was accomplished. We then went back to Washington for two principal purposes. First was to interview a number of possible investment counselors to the State on the pipeline issue. And out of that investigation we chose the firm of Kidder, Peabody ..... for the State, on contract since that period of time. We also met for the first time with Northwest and its bankers in an effort to start the ..... that is necessary to investigate all the alternatives. In the midst of those discussions of the gas pipeline waiver package passed the United States Congress. That package provided a number of waivers deemed very important to the financing of waivers of President Carter's original decision, and I think it was the general consensus of all concerned that while that waiver package was a necessary prerequisite to financing, it was not necessarily the only factor. The State examined the waiver package and felt comfortable with it and expressed strong support for during the congressional deliberations. We're responding in advance to questions which I think are likely to come. The waiver package is now the subject of litigation that has been filed by Senator Metzenbaum of Ohio and some other congressmen-senators. The principal allegations relate to the alleged violation of rules of the Congress and certain other technical aspects. We are advised by our lawyers that the lawsuit is pretty frivolous on the merits. It is pending in the Court of Appeals, there's an expedited review procedure there, but that any decision of the Court of Appeals can be appealed to the United States Supreme Court and there's at least some ..... there will be more delay incident in that process.

As a product of our discussions in Washington we came back and formulated a work plan to govern the remainder of our activities. That work plan addresses two principal questions. Should the State participate in gas pipeline financing, and the second question - if so, how? The perspective that I think all of the participants in the task force have brought to those deliberations is one of hard-headed business people. We feel that we must look at all the same factors that the investment banking houses are looking at in their decision to participate in the financing, and then, in addition, look at certain other factors which are unique to Alaska as a State government, including the

impact on royalties, severance taxes, and secondary and tertiary benefits in the State's economy. We have formulated a number of subsidiary questions in an effort to respond to those two principal questions. They range from questions relating to the marketability of Prudhoe Bay gas to alternative investment opportunities that are available to the State of Alaska, and the impact of any particular proposal on the State's credit rating. Since the formulation of that work plan which we made available to both legislators and the media, we have been proceeding on two parallel tracks in an effort to answer those questions. On the one track, Kidder, Peabody, as they will indicate later, has been pursuing a number of questions. They have met on several occasions and exchanged information with Northwest and its financiers, and they are branching out beyond those discussions to interview other people with perspectives on the pipeline.

Secondarily, we have formulated an interagency task force of technical people and experts in particular disciplines to answer certain other questions which we felt were more appropriate for State's scrutiny and response than they were for the help of outside advisors. Those two parallel tracks will come together in early March in the form of initial findings and recommendations to the legislature and the Governor. At this point in time we're not certain exactly what form those findings and recommendations will take. We have condensed what might otherwise have been a very lengthy process into a relatively short period of time. I do think that the report will hit all of the major considerations in determinants that will influence subsequent decision-making and at that point in time we may also identify any other areas that might require further scrutiny in the future.

Fahrenkamp: Thank you, Commissioner. Before I open this with questions, I want to clarify the record. I think everybody knows this is Representative Halford, and not ..... we'll get that out of the way right now. Sometimes I don't even know my own name. Are there questions from anyone? Go right ahead, Sam.

Sam: Thank you, Madame Chairman. I guess I had a couple questions, I wasn't sure how definitive you were on the advice that Kidder, Peabody has offered to us so far. That's one question, and secondly, you mentioned and I think most of us appreciate that the waiver package wasn't all that was necessary as far as the hurdles that the builders of the pipeline had to get over. How significant was that, would you say that was half the battle, more than half, less than half, and can you define the other significant hurdles that still loom in front of us?

Katz: I would be interested in the perspectives of the others too, but it is hard to quantify in percentage terms, I would say that its failure to pass would have been a determinantive point in the process that the project would not have proceeded beyond that point. It does lay a good basis for future reference to formulate the financing package because it resolves a number of important concerns to financiers, particularly the issue of pre-billing. There is an allowance in their pre-billing prior to completion of the whole system. I would say that it would be risky to put it in percentage terms, the really key events

now, I think, are involved in Northwest's negotiations with the producers and with the other pipeline companies, another aspect of the waiver package was to permit producers to participate more in the equity financing, and that is an unfolding process where I don't think any one event is determinative but there is an effort to achieve sort of a critical mass of financing which Northwest hopes to do in the reasonably near future.

With respect to your first question, we originally felt that because of the short timeframes involved, Kidder would not have had the time to really to formulate any substantive conclusions that they could share today with respect to the financing issue and whether the State ought to participate. We have met with them this morning and I think thanks to their diligence and the real cooperation they have received from Northwest and others, they are going to be in a position to go beyond merely stating what sorts of activities they have undertaken so far and will be presenting at least some tentative conclusions on the basis of the work they have done so far.

Sam: Commissioner, do you expect them to, which questions do you expect them to get involved with? Should the State participate, or do you expect them to get involved with the second question, if so, how?

Katz: Well, each of those questions involves a series of subsidiary questions. Should the State participate does involve certain questions which we have asked them to express opinions on, the marketability of Prudhoe Bay gas, other concerns of that kind. Also, the question of if so, how, very much involves them, at least initially there were a number of competing possibilities or alternatives for financing, but in each of those questions, some of the questions are being answered by them, the subsidiary questions some by the State task force, for example, a question we felt, two questions that we felt we have better expertise on than any outside counselor might, would be, one, what legal constraints, constitutional, statutory, or others, might exist with respect to any particular option, and the second one is what alternative investment opportunities might there be for the State. But both questions as your question implies involved the major policy decisions and of course Kidder and I in my capacity as chairman of this task force, view ourselves only as advisors to you and the Governor, who will be making the ultimate policy decisions.

Representative Randolph: Yes, a follow-up on those questions, what timeframe do you see this all developing in? At what point are we going to have the answers to those questions and be able to consider them.

Katz: We think that we are going to have firm enough answers to give you advice that we feel is creditable in early March. Exactly when the financing package may come together is anybody's guess, but Northwest is making a real effort to do it in the first half of this year, and one of the options at least would be available for the legislature to consider given the fact that you may adjourn before the package has totally crystallized, might be some sort of a statement of principle in which you would identify those conditions and stipulations that might govern

any State participation, should you get over the initial question of should the State participate at all.

Fahrenkamp: Are there other questions? Representative Cotton.

Cotton: I didn't want to take more turns than was due me, but Commissioner, you mentioned that there might be an impact on taxes, severance taxes, depending upon what kind of a decision the State makes on participation, I wonder if you could expand on that a little bit.

Katz: Well, the crucial question is, who does the value to the State if the natural gas remains in the ground, I guess there's some who believe that that might in itself be a prudent investment. There are many others that feel that that's not the case, that the most prudent utilization of that resource would be for the State as a one-eighth royalty owner would be to market it. Certainly it is only at the time of production and transportation that our one-eighth royalty interest would quantify itself in terms of dollars and it is only at that point in time that the State's severance tax would become operative, so in addition to the factors that the banks are looking at, like the marketability of Prudhoe Bay, etc., that seemed to be a concern that was sort of uniquely Alaska's that we ought to try and quantify and address in a report to you.

Cotton: Thank you very much.

Fahrenkamp: Other questions? Representative Rogers.

Rogers: Commissioner, you said perhaps adoption of some sort of statement of principles setting conditions might be appropriate, would that be the kind of statement that was contained in the gas pipeline financing authority legislation in 1979?

Katz: Yes sir, something like that, I'm not trying to prejudge the answer to the first question, which is whether we should, but we have tried to sort of predict that in our effort to create a logical sequence leading towards State decision-making, and it probably will be the case that the financial package despite Northwest's best efforts will not crystallize within a 100 or 120 days, the deadline for adjournment, and it seemed to us that if you chose to go that route that that might be a good way of sort of signalling Alaska's interest, the State will participate if, or the State will not participate unless an actual (?) listing, a series of conditions, and it is my understanding that most of the major commercial banks that will be participating will probably participate on essentially the same sort of basis for the letter of commitment in which announced to a statement of principles that identifies those conditions under which we might participate. One advantage to that is that the State then if the State makes a decision to participate, would be a key player in the process and then in our judgment could influence other decisions that very much relate to State interests, for example the wellhead price, etc.

Rogers: At the time you said by early March you should have some firm answers, at that time would you be suggesting to us what conditions you think we might want to consider, again if the decision to the first question is yes at that time or if your suggestion is yes, would you be suggesting conditions to us?

Katz: Yes, the answer to your question yes, I've asked Kidder, Peabody to look at that from their informed expertise, and of course there'll be other issues that may well be of concern to the State government including the legislature which would not occur to outside advisors, and we would probably also at least propose those as options for your consideration.

Rogers: Thank you.

Fahrenkamp: Thank you Rogers, further questions so we can move on?

Q.: I'm sorry, I think, Madame Chairman, that Representative Rogers raised a very significant point there, I think, in that what instrument, are you suggesting that the legislature should pass a conceptual conditional statement of principle that would later be able to be negotiated as part of the financing package?

Katz: I don't want to get out ahead of the process and my raising this at all was an effort to respond to an earlier question about what sort of sequence from here to the end of the process and at least one option that may not be the only option, it is not one that I am suggesting now because we haven't gotten there yet. I can't honestly represent to you from the State's point of view this would be a good deal or not a good deal, from at least my personal point of view, because we haven't been exposed to the whole analysis and we're about three weeks away from that, but if we were to get over all those very important preliminary questions one method for the State to express its collective voice that would be cognizable in the financial community and would actully be of value in determining what the State's role would be, would be perhaps a resolution that embodied a statement of principles together with conditions and stipulations.

Fahrenkamp: Perhaps I can help there too, Representative Cotton, in that I may not stressed enough that this is strictly an interim report and those decisions are down the road, even though he's looking at early March, there's a lot of work to be done between now and then. Is that not correct, Commissioner?

Katz: That's right, and I think too, Representative Cotton, we're all in agreement that even if the process will ultimately lead to financing, probably that final decision will not be known, therefore at least known in March or April, therefore I don't think anybody would want to suggest that the State take some final action like appropriating x amount of money, or establishing a fund, or whatever at that point in time, and it isn't necessary, the financial community is not asking for that, Northwest is not. Some lesser alternative is the one we were discussing would suffice for this interim period.

Cotton: Thank you for your indulgence, Commissioner.

Q. Madame Chairman, I'm sorry but it seems to me that talking about the process, there may be further problems, obviously this legislature can't bind the next legislature into any action and again, if we were to pass something saying these are the conditions this legislature would accept or would want, the actual appropriation decision wouldn't be able to be made until after, since what you're saying after financing agreement were reached, would that mean waiting and presenting that to the next legislature, or would a special session to consider the issue, or how would you make the transition from if you didn't do it by special session, how would?

Katz: Well, you're obviously correct about the capacity of one legislature to bind another, that is a course known to all concerned in this process, Northwest, the financial community, et cetera. That is really not a determinative problem, I don't think, the financial community and particularly its public financing experts are used to dealing with that in all governmental situations in a number of contexts, and at some point further down the line, the quote moral obligation of the State might arise depending on what course of action the State had chosen to adopt up until that point, but I don't think that's a problem now and judging from what we've heard and you'll judge independently for yourself when you hear Kidder, Peabody, I don't think that there'll be the necessity for something like a special session. I'm hopeful that if we do our homework and you all deliberate carefully that we'll come up with a work product that we can answer the first preliminary question at all, a work product that's creditable enough to carry the State forward and be a reasonable game plan for a subsequent legislature.

Fahrenkamp: Further questions. Thank you very much. Darrell MacKay from Northwest Alaska Pipeline Company. Darrell, we appreciate you're being here, you know it was short notice, and I want to say thank you again.

Darrell MacKay: Thank you. Madame Chairman and Gentlemen, we're glad to spend some time this afternoon to tell you where we are on the project. I appreciate your admonition at the beginning, Madame Chairman, on the sensitivity of some of the negotiations that I'm not able to get into in any great detail, on the other hand I think I can shed some light on the process we're going through that might help remove some uncertainties. I know it seems like we don't hear what's happening and what progress is being made, from your standpoint, and I think I can help to some extent there.

1981 was truly a banner year in respect to progress toward completion of the Alaska Natural Gas Transportation System, and I would like to review a couple of the major accomplishments we felt were critical in 1981. Before I do that, though, I would like to pause and just remind ourselves of the objective that we mutually are trying to achieve and particular in light of some of the current world events which sure affect the progress we made and how rapid that progress is made. I just mention three things that has some impact on what we're trying to

do. One, is the extreme testing period we're involved in in the economic situation in our country, and that is certainly affecting us in our ability to put our financing together, and I'll enlarge a little bit on that later as to how we see it particularly, perhaps embellish on the question that Representative Cotton asked about what does the waiver package mean in terms of that omen financing. Secondly, there is an apparent, and I use that word advisedly, an apparent world oil surplus and declining real oil prices. There's also arguably a surplus of natural gas in the lower 48 states, and again I want to emphasize that the critical thing to keep our eye on in that respect is the long-term versus the short-term, and I'll try to enlarge on that more.

In addition we have some strained foreign relations in the U.S.-Soviet confrontation that's currently going on over a natural gas pipeline from serving Western Europe from Siberia. In spite of all of these difficulties and uncertainties there are nine major U.S. natural gas companies, of which we're one, three major U.S. oil companies that you're very familiar with here in Alaska, three major Canadian natural gas companies, the Administrations of both Canada and the United States, and the Congress of the United States, and the Parliament of Canada, and we assume as well, the State of Alaska, who all believe that connecting of these frontier far north reserves is in the best interest of the United States and to do it as quickly as we can. Often, those of us who are in the trees lose sight of the forest, that there is a tremendous weight of support for this project in both of these countries and while it may not be in flashy evidence to you from day to day, this whole group has devoted considerable time and resources to companies, particularly money, and I'll bring you up to date on that, to pursue the project, and that's still going on. There's no basic change in the expectation that natural gas will be in short supply, particularly later in this decade. Just an aside on marketability in light of this short-term situation as we see it, and certainly the consultant that we have employed to look at this issue, believes Alaska gas is marketable, even in light of the current oil situation. And that occurs in several ways. One way is that with any potential upset in the Mideast there certainly could be dramatically rising oil prices. Again, we tend to get lulled into a sense of complacency when there's a period of surplus and price reduction. Secondly, there is the aspect of what we call roll-in capacity, that is the ability to average the cost of Alaskan gas which we expect probably will be higher than the market clearing price when we first come on stream, but we can average that in with other lower 48 supplies and still market Alaskan gas. Thirdly, we recently completed some very interesting work on what we call a concept of cost levelization, and that is recognizing the real cost of Alaskan gas will decline, forgetting inflation, because the transportation systems being amortized over time and it's such a huge part of the cost, if we can move some of the earlier costs into the back years, we can compete very aggressively with low clearing prices, and so a combination of all of these things lead us to believe that Alaskan gas continues to be marketable.

It's incomprehensible to us as well, that Western Europe would be willing to rely on natural gas supplies from the frontier area of Russia while here in the United States we could not connect the largest

domestic gas field ever discovered in the United States to our own markets. While as I mention it it does take a lot of dedication, it takes a lot of willingness to accept risk to pursue the project in spite of the delays and obstacles that we've had starting back in 1976, and these delays and obstacles seem to continually pop up, but we believe we're periodically taking care of those as they occur, and we're moving forward. And I'm pleased to be able to say to you today that the commitment is still present and was considerably strengthened in 1981 by all of these companies and parties that are trying to bring this project to fruition.

Let me just pause to give you a few facts from the Company's standpoint. We will have spent, including the cost of money, or have spent, including the cost of money, at the end of '81 over 600 million dollars, in engineering work and all of the other things that have gone into firming the project to the point it is. In terms of the pipeline, we have accomplished about 35% of the detailed engineering, and that's very significant level of engineering. We have not encountered surprises from the geotechnical-standpoint in terms of our ability to construct the pipeline, and within the cost estimate that was made in 1980. So we're pleased that the engineering work is proceeding well and that we have not encountered these surprises. About roughly a little less than 30% of that money has been spent in Alaska, which is going on every day and is again something I'm sure you are not aware of all of the time. Last year we had a peak employment of about 1800 people, an average of about 1400 during the course of the year, and somewhere around 25% to a third of those people are located in Alaska, and of that share that's located in Alaska, somewhere in the neighborhood of 75 - 80% were hired Alaskans to do the work. So we think we've done a good job in recognizing the needs of the State and the community in pursuing the project. The Canadians have been doing a similar thing with the people they have working on their aspect of the project, and while prior to 1981 the Canadians were generally ahead of us in terms of their progress, we believe we have now caught up and we're proceeding about on a equal pace. But this doesn't mean we're home free by any means, we're now in the midst of this extremely critical period of putting the project financing together, and that is a private financing plan with private capital. There's often been a misunderstanding that we've gone to the financial community and they have turned us down, and that is a misconception. The first time we went to the financial community represented by four of the largest U.S. banks was last summer after we had reached agreement with the producers on the concepts of a financing plan, and in working with the banks we've since modified that plan and are working very well together and the banks are very positive on our ability to put this together if everyone is motivated to do the job.

Now, let me just pause here for a moment to talk about two areas of accomplishment in 1981 that are important. One is the pre-bill project that I'm sure you have heard about previously which is the concept of building a portion of the system early to transport Canadian gas until the rest is completed for the connection of the Alaska gas. The ground-breaking ceremony for the Western Leg prebuild was held in February, and the Eastern Leg in May last year. The Western Leg

which is some 300 miles of pipeline in Canada and United States was completed and put in service October 1st, and we're now moving gas from Canada through those facilities to California. The Eastern Leg which is over 800 miles long plus another 400 in Canada, about 1200 miles total, is somehwere about three-quarters completed with the remaining construction to be done next spring and summer, aiming to put that in service in the fall of 1982, to move the rest of the Canadian gas to market. So in total, we will have built by this fall 1500 miles or about a third of the total pipeline system for the Alaska gas. An extremely important step forward and it has ramnifications for you in Alaska as well, in that's its been a time of trial to see how the Government-Company interface works in this oversight responsibility, the Federal Inspector, and we think its working well in those things that we are uncovering that need to be improved we can apply in the case of the Alaska part of the facility, so its a good testing ground and it'll be helpful to all of us to achieve coming in on schedule and on budget. I might add that those facilities on the Western Leg did come in slightly under budget and were on schedule. We expect the same on the Eastern Leg as we now see it. So we are not experiencing the types of cost overruns. Agreeably, these facilities are less difficult, the Alaska facilities being the more difficult, but again we're learning from this whole experience and expect to apply that.

The next key event in 1981 that deserves some attention is the so-called waiver package, or the waiver of law that Congress approved in December and was signed by the President which removes certain obstacles that permit us to take this very vigorous hard run at private financing of this project. The first step was the agreement we reached with the producers on the concepts of a financing plan, and then in June we submitted to the President our version of what we thought was needed in terms of a waiver of law to permit us to privately finance. Thereafter followed numerous discussions with Senate and House committee people and the Administration people who were going to be involved in the ultimate decision-making of that package, and a lot of revisions were made, and I'd be kidding you not to say that the package as it came out was a lot less than what we went in with. However we think that its still adequate subject to the final test of our ability to put all the financing together. The President then sent the waiver package to Congress in mid-October and that was followed by committee hearings--a committee in the Senate, two committees in the House, holding substantial hearings and then the vote of both the Senate and the House, and that was finally signed by the President in December.

Basically, what the waiver package did in three critical areas was this. First, it permitted the producers to own equity in the pipeline system which prior to that was prohibited. It was prohibited, however, in the original President's Decision that selected this route for the project, and so as the financing development came to fruition, it became clear that to do it privately we had to have producer assistance and so as its now structured the producers can own equity in the system. Its subject later to Department of Justice review upon the structure to make sure that the producers don't have control of the system, but

that is the key problem, not whether they should own equity per se. So that was a very critical item to permit us to go forward.

Secondly, the Conditio .ing Plant was made part of the Alaska Transportation System. Prior to that it was a separate system and the costs of the system were to be handled separately, now the Plant is part of the system and we're structuring a tariff which would reflect the cost of that Plant in the delivered cost of the gas.

Th rdly, a change in again the President's Decision was permitted to allow the Federal Energy Regulatory Commission to establish a tariff which would provide assurance that debt lenders would receive payment when a segment of the system that they were investing in was completed. This was the pre-billing concept that Commissioner Katz referred to. From a lender's standpoint this was extremely critical to permit us to go forward, even though we don't expect this event to ever occur, and we're disappointed that it was taken so out of context down in the lower 48 and all kinds of misconceptions as what it meant, but we think the risk of it occurring is very slight, but, bankers are not in the business of taking any risks and we had to accommodate those concerns as best we could.

Those were the two key activities in 1981 that have really helped move us forward substantially, the pre-built project, its status, and the waiver package. But where are we now and perhaps I need to embellish a little on the background from a financing standpoint because I know that's what you're most interested in. I mentioned the Producer Pipeline Plan that was agreed to in last spring was used. Basically, that plan provided for what we call "project financing", that is, that there would be no independent credit underlying the debt and the equity would be supplied by the participants. The producers in their part would have been responsible under than plan for 30% of both the debt and the equity of the project, and the course of conditions precedent to the whole thing working was that the Plant was going to be part of the system, which ultimately was done through the waiver package. There were other terms and conditions surrounding the plan but that was essentially some of the key features.

We then went to the banks to say, "look here's our plan, help us structure what needs to be changed in the law, (which ultimately came out as the waiver package) to make this thing work." Because of the early nature of the work, they were unable to say that they could assure that we could privately finance if the changes were made but they were able to say that without the waiver package as it was passed, they knew we could not probably finance it, and that's the posture we took at the time and have taken and now are working on trying to implement that. Now the banks in addition said, "you're going to have to make some changes to your original plan. The concept that you don't have to have credit, particularly during construction, will not work. In order to pull this off the sponsors involved, both the pipeline companies and the producers, are going to have to put their existing company credit behind the debt, or let's say most of the debt, in order to make this work." They also said that there's enough money worldwide in order to finance this project, which was a very

positive thing in their report, and this is critical because even with participation of say, the 100 largest U.S. banks, lending ...

... was very critical that, once construction is completed, we go into operation, then the tariff under which the charges are made and the ultimate gas consumer pays those charges, is enough that credit for the project to move ahead successfully, so it's only during this period of construction, or what we call the completion risk, that the banks were saying you've got to have more credit behind the project. Well, we got busy behind that situation and our companies were very disappointed of course, that the concept of project financing as we had originally proposed, was not going to fly. But, we regrouped ourselves and these companies have agreed that they're willing to support some portion of this project debt with company credit in a way that so long as it does not impinge on their other activities to do business in their regions and in a way that the banks can live with, and we are sure because of the experience on the Eastern Leg, which had similar problems, that this can be done. Well, the waiver passed and during that process I think it's important for you to know that in terms of not only the difficulties we had with some of the concepts in the waiver package, another continually nagging question we faced when we visited congressmen and senators and the committees that addressed the issue, was where's the State of Alaska, is the State supporting this, how are they going to support it, what meaning is there to attach that the State's not supporting it, and we're very concerned about that, hopefully, the Governor came down and helped support the waiver package, testified before the committees and Congress in a positive way, although there had been nothing, of course, put together at that point. I might just read one brief illustration of what I'm speaking about and this is in the House Energy and Commerce Committee report following all of the hearings, and so on. "The committee encourages the State of Alaska to examine the benefits of this project to its citizens as well as to the rest of the nation, to recognize the enormous positive effect that any contribution of capital or of credit security would have on the chances of the project to be financed, (and I would add privately which is our charge deal, and nothing's changed in that regard) and to act as promptly as possible in accordance with the conclusions of such an investigation."

I'll come up again back to the State's role and its importance to us, but this is very critical aspect, as a result we're pleased that the Governor established this task force and that the progress that Commissioner Katz just described has been made and is proceeding expeditiously. Following the passage of the waiver package then as Commissioner Katz described to you, there's been a court suit filed. We agree, as well, that this suit will not prevail, our lawyers are in the middle of this right now, but the grounds that have been raised are not, in our view, substantial enough to result in any change. However, we are concerned about the potential of delay and particularly in relation to the possibility of an appeal to the Supreme Court.

That is the background in terms of financing, now what's going on right now -- there's several things on simultaneous fronts that are moving forward, one is that the pipeline companies, and there are nine

U.S. companies, and one Canadian company, by the way, the nine U.S. companies transport 40% of the gas handled in the lower 48, so if we're marketing roughly 20 trillion cubic feet a year, these companies are handling directly about 8 trillion cubic feet a year of that, and their sales to their customers either directly or indirectly will go to all of the lower 48 states except Vermont in some manner. The percentage of Alaskan gas varies but it's spread very widely which is a very helpful thing to us again in terms of marketability. But these companies are determining and have determined and we now have in writing individually the commitments they're willing to make both in terms of equity and the amount of debt support that they're willing to stand behind. Now the four banks that are working with us to develop this plan, those banks being the Bank of America, Citibank, Chase Manhattan, and Morgan, are evaluating each of those companies to satisfy themselves that they can make that commitment. The banks are very concerned that, as the companies are, that they're able to carry out their obligations and still meet this commitment. So that process is going on right now. We're also working with the producers and will be as this pipeline work is completed on their commitment and how high that could be. We're also working with the banks to determine what portion of the debt would not have to be supported by the credit of the sponsors. We know there's some amount, the banks have told us that most of the debt will have to be supported, but there is some portion, particularly the monies spent late in the project when certain conditions have been met, such as being on schedule, on budget, those sorts of things. Late in the project we expect the banks could put a substantial amount of funds in on a non-recourse basis. But they're examining that and we're working with them. That involves a lot of schedule and engineering review to review that. The banks are also addressing the overall viability of the financing and how to structure it to best assure the chance of success, and so in a short period of time they'll be giving us their view of the terms and conditions they would attach to their commitment as banks to loan money to the project. All those things are going on right now and as you can appreciate there are going to be several knotty negotiation problems that will grow out of that, that we're pleased and I can tell you that there is a strong move on the sponsors' part, the pipeline sponsors, the producers, and the banks to get this job done and to get it done as quickly as possible.

How does the State fit into all of this? I was pleased to hear Commissioner Katz's description of how the State is going about its work and we certainly support that approach. We have tried to respond as quickly as we can to provide information to Kidder, Peabody that's necessary for them to make their analysis, and we believe we've been responsive in that area and will continue to be in as open a way as we can, again within the constraints of the negotiations that are going on. We think that this is the best way for the State to determine its role, and it's not better for us to be coming in and pushing some particular plan--we think it's better for you to address the question of should the State invest, and if so how, and for us to be responsive to be sure we supply everything that's necessary.

Now, I should clarify because it may come to your attention anyway, we're proceeding in our planning on the assumptions that the State might not participate, that it may be somewhat difficult, whether the State's participation was critical or not, we're really not phasing (?) on until we put the whole thing together, but we think that really begs the question. We believe that the correct approach is to answer this key question of should the State be an investor, as any business venture. We're confident we can demonstrate that it is an attractive investment, and that we can make it attractive to the State to do that. In that way the State's participation will grow naturally and we think would grow in the right way in such that the important psychological impact of the State being part of this will have been accomplished in the best way possible. But we're working hard to finalize this final financing plan and then to get the final regulatory approvals that are necessary in order to start construction. We hope that you participating with the Administration will decide that the State should be a part of this and that this would be an important piece of your realizing the huge benefits that will accrue in the connection of transportation, sale of Alaskan gas.

Let me close and describe very generally what kind of help we think would be the most beneficial to the project, without in any way trying to usurp because it's not appropriate for us, presumptious of us to in any way try to tell the State what the best thing to do is, but from strictly a project's standpoint, the type of assistance that we think would be most helpful would be some appropriate guarantee of a sure, of project debt, either during the construction period which would be a shorter time period or State funding of a sure of long-term debt, which could go on for any period of time that could be worked out. There are ways that such a guarantee might not have to be drawn upon and I'm very interested to hear what some of the work Kidder Peabody is doing in this area, and further we think that the State could be paid an attractive and appropriate return on any problems without committing to the project to make it an attractive business deal. All of those things however are best left to the State with our providing information to determine.

Madame Chairman, that completes my remarks, and I'd be glad to try and answer any questions you might have. I might say I brought along our last Alaskan Newsline which has some pretty good summary material and goes through all of the things that occurred in 1981, and I'll leave copies of this with you. Some of you may have it but I'll leave that with you.

Fahrenkamp: Thank you very much Mr. MacKay. Are there questions on the part of?

Q.: Yes, Mr. MacKay. I have something I would like to have clarified in my own mind. This is marketability situation, and maybe a brief description from you on just what the pre-billing entails for consumers outside and how serious that is, and how significant that is in total value.

MacKay: Okay.

Q.: Try to, ... question that is that all the information I have is, you mentioned the supply of natural gas on a shortrun basis and ... surplus and a ... do not have, but a lot of good information indicates that there is for a good long time in the future, not a shortage of natural gas, and that fits into marketability question also, would you ... just ...

MacKay: All right, let me tackle the last part first perhaps, including in context. One very significant example to me that our consultant has raised in respect to his question of the shortage of gas or the surplus of gas, is the amount of reserves in one area of the United States, just to use an example, or to make a point of how rapidly existing reserves are declining and how difficult the job is just to keep up with those declines, the South Louisiana area of the United States has about 35% of the reserves, excuse me, that's turned around, it's 25% of the reserves, but we're taking 35% of our annual production from those reserves in just one small geographic area, that's 7 trillion feet out of the 20 approximately each year is being produced out of South Louisiana. That rate of depletion is about 16% per year of the reserves that are there, so it's a quarter of our reserves and we're producing at that high rate. Now that'll decline, you know at that rate it would be gone in five years unless it's a huge amount of reserves, but it's only declined for, but it's nevertheless an example of the very important decline. A lot of the reserves that are being added, such as the well known overthrust belt are very low producible reserves, so you have to add a lot more reserves to replace what you're taking from South Louisiana, than what's in South Louisiana from a reserve standpoint. So there is a very precipitous decline particularly in the latter part of this decade, and that creates a good part of the need that I'm discussing here.

The marketability question, as I mentioned we feel confident that through a combination of those three things that first, either the gas may be incrementally saleable anyway, that there's, you know we had three major disruptions in Mideast in the decade of the 70's and it only takes one of those to add 50% or 100% to the price of oil, and so we're still in that tenuous situation, and that price affects clearing price for gas in the United States, whereas oil prices rise so does the clearing price for gas.

Secondly, we have this ability to average the cost of Alaskan gas in with other supplies, and then, third, we have this levelization method to move costs from the early years to the back years. Now we're not the only ones that have to be satisfied on marketability, the shippers, the people that are committing themselves to buy this gas have to be satisfied, the banks have to be satisfied, and so on. So all of this will be reviewed, but we're confident that we have the tools to assure that Alaska gas will be marketable.

Your last point, and I think first question in terms of the pre-billing issue, perhaps, to put that in context the first of all, nothing can happen under the legislation as it has been passed before a date certain and that date certain is the expected date of completion of the whole project, Canada and Alaska. That date is to be set by the Federal

Energy Regulatory Commission consulting with the Federal Inspector. So it's an independent objective outside look, it's not the project people setting the date. So they're going to be very concerned to assure that that date is set at a time that can be met. Right now we're talking late 1986 or 1987, then nothing could happen in terms of billing to present consumers before that date. Now after that date, if one of three of the major segments of the project is completed, but others are not, the three segments are the Conditioning Plant, the Alaska pipeline, and the Canadian pipeline as a whole. If one of those is completed, let's say Canada's complete on the target date, but for some reason we've had a delay in Alaska on Conditioning Plant, then present consumers at that time could be charged for the cost of the Canadian system, because it is now complete and ready for service. As I mentioned early on, we think the chances of this kind of thing occurring are remote because we will be close to coordinating the schedule, we know a lot now about what is schedule sensitive and how we can accommodate problems as they occur, so we think the chances of this occurring are remote. Now, however if you took that illumination of that risk to get this project done on a private basis, we're trying to do that, that seems to us to be a small risk for the consumer to take in order to assure the very large benefits that he will get over the life of the project to get this gas supply, and that was the ultimate decision that a lot of the Congressmen decided was important from their perspective.

Fahrenkamp: Are there further questions? Representative Cotton.

Cotton: I have a couple questions, if you're trying to get this thing over with in a hurry I won't ask any questions.

Fahrenkamp: I'm not, I'm just smiling, I have a 4:30 deadline and we have three other people to hear from.

Cotton: Okay I got a couple questions, I'll try to make them real brief. You mentioned as of end of 81 the company had spent 600 million dollars on the project, does that figure include the cost of the so-called prebill in the Western and Easter Legs so that prebill?

MacKay: No it does not. That's strictly the Alaskan partnership that includes none of the lower 48 systems.

Cotton: None of the Canadian?

MacKay: None of the Canadian.

Cotton: So of that money and all the people you're talking about that were working, the 1400 average, the 1800 workforce peak, that was all dealing with the Alaskan portion?

MacKay: Correct, does not include the Canadians or does not include all the work going on on the prebill. That's all separate. And the prebill itself interestingly which between the two countries is between two and three billion dollars, two and a half say, the Eastern Leg in the United States which was a total of about one and a half billion dollars is the largest private again financing ever done on the gas

pipeline in the United States, where again we tend to forget the magnitude of some of the things we're dealing with, but that was done and done successfully on the part of the . . .

Cotton: I've been playing around with your figures here, correct me if I'm wrong, 25 to 33% of those jobs were in Alaska and of those jobs 80% were Alaskans, so I get down to about 1 of 8 of the jobs that have been associated with the pipeline in Alaska have been Alaskans who have been hired, would you say that I've unfairly manipulated your figures by saying that 1 of 8 jobs are given to Alaskans?

MacKay: Well, I think yes it is unfair and I think the fair way to look at it is what have we done in respect to the people that are located in Alaska. You know it's tough to say you can attract Alaskans as much as they love this country up here to California or Utah or Washington to work on the project, or Houston, but of the people that have been brought on of the total complement in Alaska, the key figure is this 75-80% have been Alaskans. We think that's darn good performance.

Cotton: Of the jobs that are in Alaska?

MacKay: That's right.

Cotton: A couple of real quick questions, right now the Western Leg is sending Canadian or Alberta gas to California, is that correct, as it's operating as of the first of October?

MacKay: That's correct.

Cotton: And the other Leg will be operating this fall, last thing that the National Energy Board in Canada has allowed, as only a certain timeframe for a commitment of Alberta gas that you're able to use, I understood it's about five years, is that correct?

MacKay: The licenses under which that gas is moving varies between the two legs but it's about an average of six.

Cotton: Okay, so what would happen if the National Energy Board didn't allow any further export from Alberta to the West Coast of the United States, would that pipeline then have to just wait until the Alaskan section got through, or I suppose you'd pursue other alternatives, but that would be the point it would be empty until Alaska's gas came on board, is that correct?

MacKay: That could happen, we don't expect it to happen, the National Energy Board is right this year having what they call an omnibus export proceeding to look at all exports to the United States and our group is back in looking for an extension of those licenses to go further because companies in our group need both the Canadian and Alaskan gas which comes back to the question of need and marketability that they're really pursuing both supplies. The contracts are for 12 years, initial term of the contracts is 12 years and we're trying to extend the licenses.

Cotton: Okay, so probably then your goal is to get Alaskan gas to where in Alberta is the hookup there?

MacKay: A place called James River.

Cotton: James River so you want to get Alaskan gas to James River probably sometime in 1987 or 1988, is that what you're still shooting at?

MacKay: Well our current schedule is late 1986, we're really currently about reevaluating that in light of where we are, what happened on the waiver package and we'll be able to address substantially where we are on that schedule next month.

Cotton: Do you expect to have it later than late 86 then?

MacKay: That's very tight. That schedule is very tight.

Cotton: Late 86 is very tight, does that mean that you still expect to really meet that?

MacKay: It could be met but it's very improbable at this point.

Cotton: You don't want to, your most probable date -- if I step over these provinces of sensitivity please let know.

MacKay: Yes, no we really are very thoroughly re-evaluating that in terms of the steps on financing, regulatory steps and construction, and we will be in a position to lay that out particularly to the Federal Energy Regulatory Commission next month.

Cotton: In terms of other re-evaluations, when somebody asks you these day what is the total cost of the project, what are you saying these days?

MacKay: Well, let me try to put that in context, and I'll try to deal with some ranges because I think that's the best way to get a feel for this, there's a lot of ways to present capital costs so one must be sure they understand what is being presented. The first figures I'll give you are 1980 dollars so we are not including either contingency or interest on debt during construction in these figures.

Cotton: Without contingency -

MacKay: Excuse me, not contingency, inflation or the interest on debt during construction.

Cotton: Without interest on debt during construction?

MacKay: The total project, including Canada and the lower 48 and including the facilities now under construction, the prebill, varies from about 17.5 billion dollars to 23 billion dollars with and without contingencies, in other words, in the lower figure there are no contingencies and in the higher figure we have provided both what we call normal contingency and abnormal events.

Cotton: 17 to 23 is the range without inflation and without interest on debt during the construction period?

MacKay: That's right.

Cotton: So you're gonna add those to, just putting it in perspective, what you're doing?

MacKay: That's right. Now to bring those figures in, of course one has to assume inflation rates and interest costs which is at best a difficult thing to prophecy.

Cotton: Excuse me, just one real quick ..., since the Conditioning Plant is now part of the System, I assume you're adding the cost of the Conditioning Plant in with the figures you have just given me?

MacKay: Yes, the Conditioning Plant is included in those figures.

Q.: Excuse me.

MacKay: Yes.

Q.: In the 17 and a half to 23, does that, did you say that that included the Eastern Leg and the Western Leg and the prebuilt system?

MacKay: ...

Q.: ... I think that's what you said for the Eastern Leg, or over a billion anyway, that somewhere between a billion and a half, two billion dollars has been already spent or committed?

MacKay: Yes. That's right, and now when I get to inflated numbers it's easier to deal with that because those facilities are being built early so I'll put that in perspective with you on the total project. Now, if we look at inflation rates in the range of say 7 to 11% and interest rates in the range of 10 to 14%, the costs of the total project again would vary from roughly 39 billion dollars to 48 billion dollars. I want to stress there that you can, to see the importance that inflation and interest have on the total project costs, as you can see it's over half of the cost, now of that range about two and a half, or a little over to 2.7 billion, depending on the ultimate cost of the Eastern Leg will have been the prebill, so the net cost after prebill for the completion is in the range of say 36 billion to 45 billion dollars, and I'm sure you have seen publicized the figure of around 40 which is generally in the middle of that range. Again that's inflated dollars and including interest on debt and its important to recognize how big a share of the total cost that is.

Cotton: Is that a recent estimate and do you expect to have a re-evaluation of those numbers any time soon?

MacKay: We are as a group of sponsors very carefully addressing what amount of money needs to be financed and that involves estimates and inflation and so on. I don't expect that that would be outside of this

range that I just presented, that that's pretty good part of the overall financing activity. This estimate by the way, was the base behind this estimate particularly the pipeline was made in 1980 was filed with the FERC in mid-1980 and we filed some recent adjustments to that base but that base has held very well during the course of the additional field programs that we've done and engineering work we've done, so we're confident in our cost estimate.

Cotton: One final question, you finished your remarks with a discussion of what forms the State's participation might take and you were very careful to phrase it in a way that wouldn't offend the legislators up here, I suppose, but you suggested though both times that the debt was the area that the State should consider if we were wanting to know what your preference was, and you didn't mention equity, and maybe I just misunderstood what you had to say but you considered short term or project debt the first preference, long term debt the second preference, and please correct me if I'm wrong, and then you didn't make any mention of an equity investment by the State, maybe you could expand on that a little bit as to why you left out equity, or in fact did you leave that out, as more -

MacKay: In terms of our preference, yes, and there are a couple of reasons, one, we are able to raise the equity with the present group's sponsors that are supporting the project that we're able to include the producers as we may now do in the, under the waiver package that was approved, so our difficulty in putting the plan together is not with equity, we can put together the equity appropriately.

Secondly, we see some difficulty from the State's standpoint in participating in equity because of its dual role as regulator as well as investor. Now there may be some ways to get around that that could work, and we're certainly open to discussions of any nature, I don't want to foreclose any discussion that may be fruitful in this area.

Thirdly, we had observed and this was back in 79 but when Governor Hammond at that time was writing the President describing the status of things he said this, he said "I must note that in my travels through the State I have seen little support for the concept of equity participation in the line because Alaska's citizens believe that the project is strong enough it will be able to attract equity in private capital markets. So putting all that together we just haven't pursued that.

Fahrenkamp: Are there other questions. Thank you very much Mr. MacKay.

MacKay: Thank you.

Fahrenkamp: Cecil Chapman, Engineering Services Manager for Alaska, Atlantic Richfield Company.

Chapman: Madame Chairman, my name is Cecil Chapman and I'm with Arco Alaska in Anchorage. Just by way of background I've been in Alaska since 1969 and have followed the development, initial

development ... startup in production and now forward planning for Prudhoe Bay fields. My purpose in being here today is to share with you a statement which has been prepared by the Prudhoe Bay working interest owners regarding the effect of delay gas sales on Prudhoe Bay performance and development. Copies of the statement have been furnished to you, it's a three page statement, I would like to paraphrase from the statement at this point. Prior to the field going on production in June 1977, a gas sales of 2 billion cubic feet per day were anticipated starting as early as 1982. All of the studies done by the major working interest owners indicate that the optimum operating plan for Prudhoe Bay includes early gas sales, and that the reservoir can be managed such that the gas offtake will have little or no effect on ultimate oil recovery. Considering that the Prudhoe Bay unit gas and associated liquids are approximately equivalent to one third of the total recoverable hydrocarbon reserves of the producing reservoir and that simultaneous oil and gas sales can allow lower economic production limits in abandonment, the unit owners certainly very strongly support early gas sales. With regards to reservoir performance and plans and the impact on these areas the performance of the Prudhoe Bay Sadlerochit Reservoir is and will be for some time dominated by the expansion of the large gas tap. Assuming that gas sales occur by early 87 production of gas will have increased to the point that the entire production volume to support 2 billion cubic feet per day of sales can be produced from the oil wells, and I might clarify that the with the expansion of the gas cap into the oil rim area we're seeing increases in gas/oil ratios and wells such that the producing oil wells will actually allow the production of the gas volumes that will be required in order to satisfy the gas pipeline demands.

The associated gas production that is produced in excess of the fuel and other consumption requirements is currently being re-injected into the gas cap by use of the central compressor plant and this will continue to be the case until the start of gas sales. Now with the startup of sales the field gas handling capacity will increase by approximately 500 million cubic feet of gas per day. The central compressor plant as it sits there today and incidentally, this past summer we just brought up a 13th compressor unit there which allows us to achieve an inlet volume to the gas compression plant facilities of approximately 2.1 to 2.2 billion cubic feet of gas per day. With the startup of sales we would add a field offtake of about 2.7 billion cubic feet per day and this is specified in the field rules for Prudhoe Bay units, and this would allow us to increase up to this additional level of 500 million cubic feet of gas per day. Now this increase is significant in that it does allow an increase in oil production from high ratio wells and initially this increase in oil production would be something on the order of a hundred thousand barrels of oil per day. Now the benefit will erode of course with further increases in gas production, but expanion of the gas handling capacity will allow us to provide incremental oil production for some period of time. A delay in the commencement of gas sales is not really expected to have a significant effect on the ultimate recovery of Prudhoe Bay. In previous public testimony the unit working interest owners have stated that delay in gas sales until substantially all of the oil has been recovered could increase the oil recovery approximately one percent of the original oil in

place. Less drastic delays on the order of say one to three years will have an even smaller effect. Also gas sales timing impacts on oil recovery are tempered by the initiation of a major water flood in 1984 to which the unit owners are already committed and this project is very much on schedule at this point.

With regard to operating in facility impacts significant delays in gas sales can have a major effect on field facility and operational requirements. In the absence of gas sales in the 1987 timeframe additional facilities would be necessary to provide the equivalent field gas handling capacity again due these increased gas/oil ratios if we're to maintain the production of - these additional facilities and these would be compressors and lines and additional wells and so on, would result in extra capital operating and maintenance costs of about 150 to 200 million dollars for the producers. More importantly continued injection of gas back into the gas cap consumes more forms of energy, each year the gas sales are delayed would require approximately 30 billion cubic feet of fuel gas or the energy equivalent of over 5 million barrels of oil.

By way of summary the objective of the Prudhoe Bay field producers is to achieve the maximum economic recovery of oil, gas and gas liquids. Studies have shown that with sound reservoir management which includes this very large commitment to water flood in 1984 all of the interests in the field can be best served by simultaneous production of oil and gas. This can be achieved by early gas production through facilities installed for oil production and a long term by prolonging the oil production while gas production operations continue to be viable. These combined effects can be maximized by the early realization of gas sales. Delays in gas sales carry penalties associated with the fuel consumed in re-injecting the gas which cannot be sold and with the potential burden to provide extra gas handling facilities to sustain oil production at econimically optimum rates.

I guess by way of summary the feeling and certainly the conclusion of the producers is that we very definitely support early gas sales and appreciate very much the interest that this committee has and we appreciate all the support too. I think it was stated in the outset that I would also be speaking to financing, that had not been part of my plan today, so at this point I tender myself for questions.

Fahrenkamp: Very well, are there questions from members of the committee.

Q.: So your point is, you favor construction of the gasline, you don't think it's going to hurt your oil production, is that your point?

Chapman: Yes sir, that is correct.

Q.: Thank you.

Q.: Madame Chairman, if I could?

Fahrenkamp: Senator ...

Q.: In the prepared text, I'm assuming that this was what you were reading from?

Chapman: Yes sir.

Q.: There are several references in here, the gas liquids, and gas, and in your summary, oil/gas and gas liquids, and of course we've all heard the studies about the gas liquids through the Dow-Shell Study, and the producers were a major part of that study, and because of the reference in here, has there been some decision reached in the design of the facility where there would be a ... attempt to separate gas liquids as this financing goes forward in the line?

Chapman: As part of the gas conditioning facilities for the pipeline?

Q.: Yes, in other words the gas conditioning facility now is part of the pipeline, and what, I gues what I'm saying is, what's the status, is that gas conditioning facility going to be set up so that gas liquids can be extracted at Prudhoe Bay, Fairbanks, or has that decision been reached, and maybe I'm even asking the wrong guy, I don't know.

Chapman: Yes sir, I think I would really rather refer that question to Mr. MacKay, he can probably speak more effectively to that particular aspect of ... .

Fahrenkamp: Are there further questions?

Q.: Madame Chairman, with your indulgence I would like to ask that question of Mr. MacKay.

MacKay: I'm sorry, could you repeat that, I couldn't quite hear all of it, in back,

Q.: In the producer's statement here, they make references to not only oil and gas, but gas liquids, and my specific question is, has there been or is there an attempt to be a design of the conditioning plant, so the gas liquids may be extracted at Prudhoe Bay, or Fairbanks, or has it been addressed yet?

MacKay: ... (gap on transcription) additional material out of the gas stream, but the initial design of the plant to extract what's necessary to make the gas transportable through the pipeline.

Q.: Through the pipeline?

MacKay: Right.

Q.: Okay, what happens to the rest of it, because obviously not all the gas liquids can be transported down the pipe, is that re-injected under the scheme now?

MacKay: The present design in, and I might say that all of the contractual arrangements surrounding this situation has yet been put in place as between the producers, the shippers, and the plant itself, but

the design contemplates that some of the liquids would be blended with the fuel gas stream that's used on the North Slope, some of the liquids would be transported or blended with the oil and go through the oil pipeline.

Fahrenkamp: Representative Bettisworth.

_____(?): I'm through for a second, I want to think about that last one.

Bettisworth: Okay, thank you Madame Chairman, in regards to the gas liquids, as a percentage of the gas liquids in the gas that will be extracted, what percent's going to go down the pipeline? If your gas volume runs 16-18% gas liquids, how much of that, those liquids are going to go into the gas stream, or go down the pipeline?

MacKay: Oh, I'm sorry I can't answer that question. I don't have in mind the, how that is, how those volumes are shared.

Bettisworth: If I may pursue this just a, just a touch, Madame Chairman. Most Alaskans and myself included are particularly interested in the gas liquids because of the value added possibilities, even for just minor manufacture, and the gasline that's going into the States is a dry gasline so those liquids are going to come out somewhere, and apparently they are going to come out somewhere in Alberta, and they're gonna be should be in such volume that the large percentage goes down the pipeline to create a substantial petro-chemical industry, and recognizing that they all, there is an existing industry in Alberta that could probably handle it, Alaskans would very much like to have something like that up here, and that's going to I'm sure be weighing heavily in the minds of those legislators who are looking at any possibility of help in the financing field as to what happens to those liqiuds, and I for one feel quite strongly that way and I think there probably are others.

Fahrenkamp: Representative Bettisworth, I'm sorry that we did not in our invitations to them or in any way prepare them for the questions that they're getting now, (babble), are there further questions?

MacKay: Just one quick comment, there will be no liquids extracted in Canada, I can assure you that. This will be a separate system and the contractual arrangements and the tariff arrangements will assure that that does not happen. It is contemplated that what would happen is that the gas, the heating value that's present will be sold in the form that is delivered.

Q.: Madame Chairman, if I may?

Fahrenkamp: Representative Ray (?)

Ray: Recognize that the gas liquids increase in BTU value, cubic foot gas considerably, your suggestion that is not going to be then dry gas exported from Canada into the lower 48, that it will have a liquid gas mixture in it that will increase the BTU's?

MacKay: No, technically it's difficult to directly address what you're getting at, if the stream can be gaseous or vapor and still have hydrocarbons in it that could be liquified, for example the component that's most valuable for petro-chemical development is ethylene, in order to make ethylene, well that's a very common part of natural gas stream delivered every day in the lower 48, and it doesn't take a liquid form unless it's specifically extracted and used as a separate product, so I think the answer is yes, the material stays in a gaseous form, it's still dry gas in that sense, it's not in liquid form as it's delivered to the consumers in the United States. Does that help somewhat?

Ray: To a degree. Okay if I may just one more and then I'll be quiet. I wouldn't expect that you'd probably answer this right now, but somewhere hopefully in the very near future somebody will answer it, but it's been rumored and I will concede that at this point it is strictly a rumor and there's lots of talk and hearsay about what's going to happen to this fabulous gasline, that liquid rich gas from Alaska which is supposedly a lot higher BTU content will be traded for dry gas in Canada for a largely increased volume, in other words a cubic foot of rich gas for less rich gas to expand the volume that will be exported to States for sale.

MacKay: I can tell you that there is no substance to that at all with one very minor exception, and tnat is that we do expect to work out some arrangement with the Canadians to provide gas service to some small communities in the Yukon and that not now receive service, but it would not be for the purpose of liquid extraction, volume is very small so that would be the only exchange of ... ever been discussed, and I'm sure I would know about any such discussions as that heat content of gas is a very critical thing to shippers (garble)

Q.: Very good, thank you.

MacKay: Right.

Fahrenkamp: Thank you very much, are there further questions of Mr. Chapman? Thank you very much for participating, we appreciate it. Ken Showalter from Sohio.

Showalter: Thank you, Madame Chairman. I'm Ken Showalter, Director of State Government Affairs for Sohio, and the previous witnesses have pretty well covered the subjects at hand and most of what I might have said was covered in more detail and probably with more expertise than I could have done, and I'm sure that Kidder Peabody panel will do the same on the financing issue from their perspective, so I'll keep it very short and try to respond to any questions you might have and help you along on your 4:30 schedule.

I do want to emphasize that Sohio is seriously pursuing this project and that's evidenced by an expenditure by our company to date of some 40 million dollars in studies for the project and we've been active in the various negotiations and hearings in various forms regarding the project. A lot of hard work has been done by a lot of people and is ongoing to make the project a reality. We intend to pursue those

efforts to an ulltimate conclusion which we hope is the completion of this transportation system that will allow us to sell the sizeable volumes of gas reserves that we have at Prudhoe Bay. Whether or not the State participates in the project obviously is a question that can only be answered by this body, the legislature. Sohio can't answer that question for you. We recognize that the State must follow this very important matter in the manner that they're doing and we would only counsel that if you come to the conclusion that it is a prudent thing for the State to participate in one manner or another that it be done in a pure investment sense comparing it with other investments that you might have and comparing the benefits and the costs of all of those projects. Beyond that I don't have a lot to say, our invitation included the same question that Mr. Chapman responded to, Sohio is fully in accord with the position that he laid out, our engineers participated in working up that response some time ago and all of the unit owners are in fact in agreement with that statement. With that I'll try to respond to any questions, I'm not a finance man nor a petroleum engineer, but I'll try to respond.

Fahrenkamp: Thank you, Ken, are there questions from members of the committee?

Cotton: Madame Chairman, I think that he answered my questions by saying that he had the same position that the other producers had, so that answers the question I might have had.

Fahrenkamp: Thank you Representative Cotton. I would like to invite the full team of Kidder Peabody at this time, that will be Ken Seplow, Joseph Schell, Otto Lowell, Roger Powell, as you speak identify yourselves for the record, and welcome to Juneau.

Q.: Madame Chairman, suppose we take five?

Fahrenkamp: Five minutes, yeah. We're ready and in good shape.

Co-chairman: As the House Co-chairman I'll call the meeting back to order. Senator Fahrenkamp had to go and take care of another matter, hopefully she'll be back in a few minutes. If you would go ahead with your presentation.

Joe Schell: Thank you Mr. Co-chairman, and members of the Joint House/Senate Committee on Oil and Gas Resources. I am Joe Schell, I'm Director of Kidder Peabody and Director of our Alternative Energy Group within our Corporate Finance Department. With me today are Ken Seplow to my right who is the Vice President of Kidder Peabody and Co-director of our Project Finance Group, and Otto Lowell, also a Vice President of Kidder Peabody whose enviable job is to look after our business in Alaska. One of the other members of our team who is in Alaska today but has left Juneau for Anchorage is Roger Pyle (?) who is the Vice President of our Municipal Finance Group and also a member of our Task Force dealing with our assignment for the State of Alaska.

First of all we thank you for the opportunity to come today and present you with our preliminary findings and I stress the word preliminary from the analysis that we have been doing over the last 45 days since we received the assignment for the State. As Commissioner Katz mentioned our assignment has been primarily focused on two questions. One, should Alaska participate in the financing plan for the Alaska Natural Gas Transportation System, and if the answer to that question is yes, then how should they participate. What is the most appropriate form for the State of Alaska to participate, given its other interests.

To date Kidder Peabody has been, my associates and I have been very active in holding meetings, reading all the various information that has been available on the pipeline and its progress to date. To give you an idea of what has been accomplished, we have had 4-5 meetings with the sponsors to discuss such things as their financing plan, the status thereof, the cost estimate and when that might be relooked at, the marketability of gas, their financial model which shows the returns available to the various equity sponsors of the project if everything goes according to plan, and also had discussions with their offices in Washington concerning the schedule for the FERC proceedings which will be upcoming later this year.

We have also met with the design engineers, being Fluor and Parsons, Fluor on the pipeline and Parsons on the Gas Conditioning Plant to discuss in greater detail the cost estimate to assure ourselves that the cost estimate procedures were realistic, based on our knowledge of how you go about that, and in determining how much sensitivity there is to the number which Mr. (?) ... out for the cost of the Alaskan portion of the pipeline. We have also and most importantly, had constant interaction over the last month and a half with other members of the task force from Commissioner Katz's office and Commissioner Williams' office particularly.

Our preliminary conclusions are as follows: First, our belief, based on our analysis to date is that the Alaskan Natural Gas Transportation System is the most viable alternative available to deliver Prudheo Bay gas to the lower 48 within this decade. That there really are no other alternatives available, and it by itself is a viable alternative. We do not see any significant technical problems in building the pipeline. We believe the cost estimate procedures which have been followed and the cost estimate which has resulted appears reasonable at this time given the amount of engineering which has been accomplished, and although we are less certain of this conclusion it appears to us that the gas is marketable in the lower 48 states, that there may be a requirement to pursue such items as levellzed tariffs to accomplish that fully.

We have been struck with the fact that all parties are working on the financing plan are doing just that, they're working very diligently to put together the financing plan. When we first received the assignment we were very hopeful that we could talk to the sponsors in our first meeting and have a full financing plan laid out before us. I think we became more understanding of the difficulty of that and you should be aware of that, that with ten project sponsors pipeline companies as project sponsors and three producer companies, it is a very difficult

task to get thirteen people to agree to anything. A financing plan is a very difficult procedure as was explained earlier by Mr. MacKay, the bank reaction to their first plan has altered their approach that they have taken, the project debt was not appropriate for the project, that the need for credit support to be provided by both the producers and the sponsors, that increases to a great extent the potential liability and potential investment of the various participants and it takes a great deal of time for them to come to an understanding internally within each company and agree among all thirteen companies as to how they want to proceed. That is one of the reasons I think it's taken as long as it appears to have to put together a financing plan, but it's very clear to us that everyone has diligently worked and could do that.

The third item among our preliminary conclusions are the following that we believe that the transportation system has definite net benefits to the State. Measuring those benefits is a difficult procedure and is not part of our assignment at this point, but from the work that we have studied on the national net benefits analysis which had been done before and some of the state net benefits analysis which is ongoing right now, we believe they're very significant benefits to the State in seeing that the Alaskan Natural Gas Transportation System becomes a reality.

The sponsors and producers in the ultimate financing plan when it does come to the forefront will be committing huge amounts of their capital, both on an absolute basis, talking about numbers that are in the 20 billion dollar range, 20 to 30 billion dollar range for the total pipeline system, most of that both in the form of equity and credit supportted debt will come from the sponsors and producers. So the absolute amount is huge, the relative amount of financing that they would be responsible for relative to their existing businesses, their existing asset base, is also very, very large. However, it is also apparent to us that with those huge commitments made by those thirteen companies in their pro-rata share there may be and most likely be a need for additional financing beyond that as was mentioned earlier by Mr. MacKay, a portion of that financing may be accomplished on the basis of the project itself, provided that financing is put in towards the end of the project, and the issue which we will be addressing shortly, the State may have a role to play in filling that financing gap over and above the significant commitments made by the sponsors and the producers.

We feel that support for a financing plan by the State of Alaska at this early point can only serve to enhance the probability that the transportation system will go forward and become a reality. That that form of support not only the dollar amount, but the statement of an expression of interest in seeing that this becomes a reality, is very important to the pipeline's success at this point in time.

And lastly, we believe that Alaska can support the financing plan with very minimal risk on the part of the State, and my associate Ken Seplow will discuss our preliminary thoughts along these lines and we will be obviously available to answer any of your questions as they come up. I would again stress that what we are trying to do today is verbalize what we will be putting in writing shortly at the direction of

the task force so in the next three or four weeks trying to give you a sense of where we are today in our analysis of what options the State has available to it.

Seplow: In the course of our analysis we've looked at a number of different alternative modes of investment or involvement in the pipeline financing plan on the part of the State of Alaska, most particularly, we have looked at the possibility of Alaska providing equity to the project, and our tentative view although I would stress that I see little on the horizon to change that view, would be that equity would be an inappropriate vehicle for Alaska in terms of this project, and there are quite a number of reasons for that. When you assess the appropriateness of investment, one of the first things you have to do is evaluate the capacity of the investor to bear risk, then you have to evaluate risk and see whether or not the investor can stand the loss that would result if things don't work out. Now in these terms I think we have to acknowledge that an equity investment is the riskiest part of this project and given the posture of Alaska as a State, and given our understanding of Alaska's financial resources and future prospects, Alaska, we think, would find it very difficult to bear that risk, and it would seem to us to be inappropriate to ask Alaska to bear that risk. Another element of inappropriateness about equity investment is that equity investment has to be made up front. Indeed the financing plan that has been advanced that may even be required by the terms of the Presidential Decision requires that the anticipated equity funds be invested in the project before any debt funds are invested which would require of an equity investor that it have available the cash to put in almost immediately, and as we review the financial position of the State and its projections for the next several years and the other calls upon its resources, that various members of the State Government have in mind and have perhaps even tentatively committed the State to, there just doesn't seem to be any cash up front for that equity investment. Now even if Alaska were to make an equity investment there's some serious question as to whether this would be the most appropriate investment in terms of the kind of return that Alaska could get. After all, investment in this pipeline conditioning plant is investment in a regulated enterprise and as such the upside return potential is distinctly limited indeed over a fine-eyed (?) period of time as that investment is amortized the actual cash flow return declines. In addition to that we carefully analyzed the projected return to the system owners and we find that a major portion of the return appears in the tax benefits that accrue to those owners, and those are tax benefits which Alaska as a public body cannot share, and indeed the presence of Alaska as an equity owner were the owner of a segment of the transportation system might in fact fritter away tax benefits, several tax benefits that would otherwise be usefully employed in attracting capital. In addition, of course, we heard Mr. MacKay say today that apparently the sponsors have lined up the equity, they don't need Alaskan equity, there are concerns that have been expressed not only by Northwest, but people within State Government about the appropriateness of Alaska being both the regulator and taxer of this system, and an equity investor in the system.

All in it just does not seem that there are sufficient real benefits associawith an equity investment and there seem to be quite a numberdrawbacks to an equity investment so we have as I said tentatibut probably approaching conclusively, we see a conclusion that weuld recommend against any consideration of equity investm I might just make one footnote on this equity investment conceptumber of people have suggested that Alaska should own a segmenthe system, for example, the conditioning plant, I've heard it frequ said here that Alaska should own the conditioning plant and I tlthat presupposes that ownership of a segment such as the conditio plant would vest Alaska with some degree of control over that fac I think that that's a misleading notion because I do not think ar the other parties to this project, either the producers or the spor, the pipeline companies or the banks that will be supplyinds are prepared to see an independent party operate a segmenhe plant in a way that is not consistent with the overall purposeat plant, of the entire system, and indeed that was the theory uining the whole waiver provision with respect to including the concng plant in the transportation system. The need to join the concng plant to the pipeline in order to create a satisfactory financing, so I think the illusion that there would be some opportun exercise control through ownership is one that probably should boelled.

Now, ano consideration that we gave to another mode of financing on the pa Alaska that we considered was the possibility of Alaska providinct. And this is certainly a more acceptable approach in our view equity, but still comes up with a number of drawbacks. The prin drawback is that again debt financing has to be funded early on some of the same considerations that I mentioned before about fu equity and the problems of finding room within the State's ct and future budgets as projected particularly in light of spendincations which may be enacted by the voters really make it very dif to find a place where the State is going to come up with the cashind debt in the next several years when the debt would have tonded in order to provide a source of funds for construc

Anotherderation about debt financing is as has been alluded to earlier.ie completion risk can be covered by credit-worthy parties world capital markets appear to be adequate to meet the debt fi needs of the project, so in terms of making a contribo the project coming together and getting done, Alaska's particwhile it might be useful is not a terribly critical thing in order tase that probability of ANGTS becoming a reality. What really to be needed and which also seems to fit in best with Alaskability and risk-bearing position, would be to call upon Alaskavide some of that contingent commitment supporting comple the pipeline, supporting the debt funds that would be contribwards construction. As has previously been discussed when ks last summer looked at the proj ct they said that they would redit-worthy parties backing up the debt that they supply with rto construction and completion issue, we've already heard that tucers and sponsors are making determinations, to some

extent have made determinations as to the amount of credit they can provide to support that completion problem, there are some questions as to whether or not the producers and sponsors collectively will be able to pool enough credit to meet the bank's requirements, there is a risk that the project may fall short in that respect there is a possibility of a so-called gap in terms of that credit support and we think that the most critical need on the part of the project in terms of this financing plan is to fill that gap and Alaska seems to be particularly well suited to do that if Alaska is to do anything. Although the completion risk is the most risky part of the project perhaps there are ways in which to minimize that completion risk with respect to any particular party backstopping that risk, and a principal way of doing that is to what we call backload the responsibility, and essentially what that means is, that any funds that any commitments Alaska would make which would be designed to support the infusion of debt into the project, would be invested at a later stage of construction, toward the back end of construction at a point in time when it would be far easier than it is now to assess the problems that may have arisen that may arise in the course of construction and to assess what funds are necessary to achieve completion, and if the debt funds that Alaska backstops, investment of those funds are conditioned upon, assurances that those funds plus other funds that are available, are sufficient to provide completion, that risk is very significantly reduced. . Now one of the other important benefits of this approach is that this approach requires a minimal up front cash commitment by Alaska, and consequently it provides a minimal interference with the State's other investment and expenditure plans. To give you an example of how this might work, if Alaska backed up, provided a back up to debt funds which were only required to be invested after the equity in the project had been expended, and after a debt funds backed up by the producers and sponsors, the funds that Alaska would be backing up would probably not be called upon until fiscal year 1985, at a point in time when a projected three-quarters of the cost of construction would have been expended, and as I indicated before, Alaska-backed funds would then be invested only after receipt of assurances that sufficient funds were provided by the system owners to complete and that the gas would be marketable. Of course once completion has been accomplished the State would have no further liability on its credit backup. Now we've been assured that if Alaska entertained this type of commitment that Alaska would receive a market rate type of compensation for its commitment and that presumably that compensation could either be paid in a lump sum or over a period of time, it presumably could be negotiated either in a fixed amount or in a variable amount depending on the inflation rate in the future, or could it could be pegged to the equity earnings of the sponsors in the project. There are a great number of alternatives as to how that could be designed.

Fundamentally, as we have indicated, we think that this approach does the most for getting the project done, and yet places a minimal risk on Alaska and a minimal call on its current funds. There has been some discussion and Commissioner Katz testified earlier about the approach that Alaska ought to take at this time. We recognize that the details of the sponsors' financial plan will not be available until probably the spring of this year which is really out of sync with the consideration

that this legislative session can address that plan. Now the State could wait until the sponsors develop all of the details of the plan but in view of the fact that the legislature will be going out of session the State will not really be in a very effective position to deal with that after it goes out of session. Consequently we would suggest that if something positive is to be done that there be some sort of expression of support in general for the concept that we are recommending enacted by the legislature or otherwise developed by the legislature and the executive body of the State, and this would perhaps be in a form of a resolution expressing general support for this concept attaching conditions to Alaska's participation and such conditions might include satisfactory assessment by Alaska of all of the risks including the cost and completion risks, and marketability as well as the satisfactory structuring of the commitment to minimize the specific risk on Alaska's part, number two, assurance that an adequate compensation of the, provided for Alaska for undertaking these risks, number three, that there be adequate assurances associated with the problem of Alaska's interest in the wellhead value of the gas. Another condition might be an adequate resolution from the State's point of view of the issue of compensation to the State for the socioeconomic costs of the project, certainly a condition would be that all of the other elements of the financing plan including commitments from other responsible sources be provided. Now this approach would, as my colleague has said, by expressing the support of the State for the project and giving some tangible evidence of that support and being prepared, evidencing the State's willingness to sit down and negotiate details of this participation, would certainly enhance the chances of the project coming together and the other financial participants coming forward with the necessary commitments. It certainly would indicate that this project has a very welcome environment here in the State of Alaska and it certainly indicates that things would be, would be further evidence that things are falling in place in terms of the consummation of this plan.

Moreover, by taking this step I think Alaska would really be gaining a seat at the negotiating table concerning the financing. I mean Alaska's involved in that but in a sense as a partial outsider, and by stepping up and saying we're interested in participating Alaska would gain an opportunity to sit down with all of the other serious participants in the financing plan and have a say about all of the elements in the financing plan, including those elements associated with marketability, whatever arrangements are made with respect to levelizing and that would be an important means by which Alaska could protect its interest in the wellhead value.

Now I want to conlude by saying that the remarks we've made are still tentative, and we've got to sit down and digest some additional information that we've gathered during our visit to Juneau, we've got to put this all on paper for consideration of the task force and public, we are still a little general in some of the concepts that we're talking about, specifically some of the legal elements associated with the implementation of this suggestion have yet to be worked out in detail, but work is continuing and this is a very high order of priority personally and on the part of our firm, and we hope to be back up

here in a couple weeks with our written report and to again submit ourselves to detailed questioning concerning our recommendations.

Q. Thank you. Any questions to same?

Q. Are you ... (garble) and I do have some questions. Let me see if I can ... see if I can just summarize this in layman's terms, what you're saying to us is that the examined equity debt, some kind of contingency ... and that you feel that equity is inappropriate because of the three or four reasons that you set aside, the debt might be more appropriate that it's really not critical in terms of the entire financing, if that's all we're going to get involved with because of the posture of the worldwide price of ... for the financing, and so you're asking us, I say you're asking us, the idea is for us to consider contingency commitments, something that's at the tail end, we probably wouldn't know what that would be until halfway, ... or later, I'm assuming when you say halfways (?) five year, still using 1986 schedule that Northwest has at this time, so could and probably would be later than 1985, fiscal year 1985, is that correct?

Seplow: That's correct.

Q. So we really wouldn't know the dollar amounts that we might be asked to consider until that time. Is that correct?

Seplow: No, perhaps I didn't make that clear. We would be talking about Alaska either currently or within the next year, making a firm commitment to support a credit debt up to a maximum dollar amount, what you wouldn't know about until 1985, 1986, or conceivably 1987, is whether that commitment will be called upon,

Q.: Or even if it's enough?

Seplow: Well, if it isn't enough, and if at the time that commitment, the debt funds which that commitment is backing up, is apparently not enough then the debt funds would not have to be invested, Alaska would be taken off the hook until the sponsors and producers could come up with additional funds that would assure that all those funds together would be sufficient to complete.

Cotton: That's about the same question I had on the completion guarantee--I wanted to know if there was a specific amount that we have to lay out here and by tying it to whether or not the producers or others could come up with whatever the additional required funds were, that would significantly lower the risk to the State as far as its participation, is that correct?

Seplow: That's right.

Cotton: That's sort of the idea, and let me make sure I understood the marching orders that ... (gap)

Seplow (?): .... we think was referred to earlier includes more than those assets,

Cotton: So they would have to make the same assumptions about whichever portion of the project that you were talking about, wouldn't you?

Seplow: That's true.

Seplow: And that the Canadian sections is another part of it, and the prebill, that the part we have focused on because of our assignment for the State is the Alaskan segment not all the rest of it.

Cotton: Okay, I didn't mean to get lost, go ahead.

Seplow: There's one other point that I'd like to make, and that is, if the State were to adopt the approach that we've suggested, which is that it provide a contingent credit backup, the State would not be putting any funds out so the State would not be earning any funds, a interest rate, because the funds are not invested. What the State would be getting is some sort of compensation for having assumed that risk, and that would obviously be largely a function of the assessment of that risk, and it might be impacted by what overall interest rates were.

Cotton: ... once they finally made the call on these funds if in fact they made a call on them, .. point of guaranteeing that they'll be there is because they need them, right?

Seplow: Right.

Cotton: If they didn't need them that would become part of the debt?

Seplow: It's not there in case they need them, it's there to, those funds are going to be put up by perhaps the same group buying some insurance companies that are going to put up the funds that are guaranteed by the credits of the producers and the pipeline companies, it's just going to have a different credit, it's going to have the State's credit instead of Northwest Energy's credit. If the pipeline for some reason is not completed then the providers of the debt capital are not paid their interest and principal repayments on time, then they will call their obligations, they will come to the State of Alaska and say you owe us X dollars depending on the strategy ... (garble) will go to the producers and the pipeline companies ... saying call that they have because they guaranteed the securities so there will be no monies put out by the State of Alaska other than those funds which they might segregate to support their guarantee if it ever got called, whether you have to put up dollar for dollar that amount, make some provision that you put up some monies in overtime that's invested such that gets the guarantees called in some future point in time there'll be enough there to pay the guarantee off. There are all kinds of mechanisms which we haven't worked out yet to support the guarantee.

Cotton: Okay, I was wondering, let me get back out here and let somebody else have some questions. I want to make sure you understand that our, I understand what your position is, you're working for the State and we're paying you to give us advice so I'm

not trying to interrogate you I'm trying to understand, there's a lot of new things here that I'm not that familiar with. I assume you don't also represent any of the pipeline companies or the gas producers, is that correct?

Seplow: Right. Unfortunately that's correct.

(Much laughter).

Cottor: Thank you.

Q.: Following that one step further because I think Representative Cotton opened up something that I was interested in, you mentioned that the State's guarantee comes on last, the question is, if you get a call of obligations, is that call also satisfied last, in other words, if you're talking so many billion dollars that are supported by the pipeline companies as well as the producers and you finally get down to the State's call, is that negotiated to be or recommended to be also the last call in that order as well?

Seplow: It probably would work out so that the call occurs simultaneously, there's probably an outside date by which the project is supposed to be completed, and that date may very well tie in with the FERC set date for when the prebill period commences, and there would be institutions who would be looking to be repaid the debt that they have provided to the project, by that date if it hasn't been completed by that date, and some of those institutions would be looking to Alaska and some of them would be looking to Exxon, some of them to Sohio, some of them to Arco, and some to the pipeline companies, but that would all happen probably simultaneously, now if the project is not completed and we're talking about worst case, by that outside date then each of the credit supported parties would have to step up and pay off that debt, and they would in effect be purchasing that debt and so Alaska would step into the shoes of some of the senior lenders who have a first lien on the project, and they would be Alaska's interest but at that point in time would be senior in claim to the pipeline, to the equity that the sponsors and producing companies have put in, and at that point in time, Alaska and the other holders of the debt would have to worry about what it would take to get the pipeline completed and where those sponsors going to come from, and in the first place, they probably look to the producers and sponsors who have all that equity invested to see if they could provide additional funds. They would have a very powerful motivation for doing that but they wouldn't be legally obliged to do that, now if for some reason they felt that the project had receded in economic viability to the point that they didn't want to put any more money in underneath the first lienholders, then the holders of that debt would have to worry about attracting senior debt, that giving up some of their senior position in order to get enough funds in to complete the project, and you have to go through a rather horrendous litany of events whereby Alaska ended up not only losing some of its money or it really have to go to extremes to come up with a conjured up case whereby Alaska lost all of its money, but Alaska would fill the gap that in terms of taking that kind of credit risk which apparently the banks at this juncture are not prepared to

take except for very small portion of the funds, and I think that the view is that Alaska would probably take, that the banks may take the last few dollars' risk if Alaska would take the dollars before the banks. So basically, before Alaska does anything the project's sponsors and the producers are on the line for three-fourths of the total, again before the State of Alaska loses anything the sponsors and producers have already lost all of their equity share. They've lost the equity share and they've come in for a debt share representing let's say half of the cost of the project, which may equally on one with Alaska. The benefit of that approach is that it maximizes private sector participation prior to public sector participation, it is intended to be a private project as Mr. MacKay mentioned, that's the way they want to approach it and this plan fits very nicely with their desire to keep it a private project.

Q.: Representative Cotton.

Cotton: The question I get asked is ... why don't we build an all Alaskan gasline. I know that every bit of advice we've ever got said that it is not feasible and you've made a statement similar to that that suggests that the existing Northwest design is the most and probably the only viable system for this decade. Is that included in a report some place, I usually say that too, but I want to be able to prove it I guess.

Seplow: Can I, maybe we shouldn't be as categorical as we've been making that statement but frankly, the concept of an all Alaskan line is very appealing to me six year ago but a lot of water is gone over the dam in six years. We've had at least three significant problems arisen that may get virtually impossible to conceive of an All Alaskan pipeline in this decade. First of all you've had El Paso which was the sponsor of that project withdraw from the LNG business with terrible financial bruises, they have written off something like half of the corporate equity as a result of losses that they have sustained in the LNG business, and maybe those losses have nothing to do with the kind of risk that they would be exposed to in Alaska, but basically they are out of business in LNG now. Second of all, you've had an inability to get a regasification facility site on the West Coast of United States, they've been working on that for probably ten years, or a good part of ten years and it still hasn't come to fruition, and thirdly, one of the great attractions of the El Paso LNG project was that you could use Title XI US Government shift financing bonds to back up a lot of the credit, well that program has been deminished as a result of the Reagon Administration fiscal constraints and as a result of some poor experiences that the Maritime Administration has had with LNG in other projects, they are not about to give any of their now very scarce guarantee authority to an LNG project of this order of magnitude, so I just cannot see how a project can come to ... even apart from a long lead time that any such project has.

Cotton: So in addition to other things that Ronald Reagon, is because of ... has not been able to consider that all Alaska line.

Seplow: That's only one of three causes.

Cotton: Thank you.

Q.: Are we going to turn this into a partisan discussion?

Cotton: Sure.

Q. Any further questions.

Q.: Mr. Chairman, just so that I understand about three hours ago I think, I think it was pointed out that you would be back in March?

Seplow: Yes, when we complete our report we will submit it in writing and then at the convenience of the committee and legislature, we'll be back up to discuss it.

Q.: Thank you.

Fahrenkamp: I would just like to thank the gentlemen, I know it was a little time-consuming on your part ... to give an interim report before you felt you were ready to go with that, and we really appreciate your taking the time to do it.

Q. Just one last shot I don't know if it was asked while I had to break for another meeting, to what extent have you gone into deregulation of natural gas as far as it affects marketability?

Seplow: We certainly looked at the question and I want to emphasize that we are not the ultimate authority on marketability. We have read the Jensen Associates report that Northwest submitted and we've looked at a number of other sources on that issue and we think it has an impact on marketability. However you slice it you can make a good case for marketability, but you can't make an absolutely conclusive case for marketability without some mechanism which backend loads the gas, the transportation and or wellhead cost. It would appear to us that that is a very critical element in terms of assuring the marketability of the gas and one of the advantages of the approach that we've taken as I indicated earlier is that by Alaska stepping up to, as a negotiator about the financing plan, Alaska would have an opportunity to have a first hand impact on those arrangements.

Q.: That will be part of your final report?

Seplow: Yes.

Q.: Just as you went by that you said backend loads the transportation and the wellhead cost, of course when I think of the wellhead costs I think of the wellhead costs of the State's share as well, and backend loading there and what the effect might be I just, I'd like to hear more about that and get the,

Seplow: Well, I mean, certainly the wellhead could possibly be backend loaded and that might not be a disadvantageous thing for Alaska and for the producers provided that they were compensated for the ... of both in terms of the time value of the money they are foregoing and in

terms of additional risk that they are incurring by waiting longer for the payment.

Q.: Thank you.

END.

Alaska Oil and Gas Association

AOGA

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February 12, 1982

Senator Bettye Fahrenkamp
Chairman, Committee on Resources
Pouch V
State Capitol
Juneau, Alaska 99811

Dear Senator Fahrenkamp:

Thank you for your invitation to share with the Resources Committee AOGA's comments on the State's 5-year leasing program.

We will contact your staff as soon as possible regarding scheduling an appearance for the February 26 meeting of your committee.

Your interest in our industry's view is very much appreciated.

Sincerely,

WILLIAM W. HOPKINS
Executive Director

WWH:mk

Alaska State Legislature

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Senate

Committee on Resources

A joint Senate-House interim status report on the Northwest Alaska pipeline project will be held February 17, Senator Bettye Fahrenkamp and Representative Rick Halford announced today. Fahrenkamp, chairman of the Senate Resources Committee, and Halford, co-chairman of the Special Joint Committee on Gas Pipeline Financing, are the legislative members of the Governor's Task Force on Gas Pipeline Financing.

"The purpose of the oversight hearing is to disseminate the most up-to-date facts regarding the state's interest in the gas pipeline financing to the public and the Legislature. Since passage of the waiver package in Congress last December, there has been very little information exchanged in the Legislature which ultimately will have to approve any participation by the State," said Halford. He added that the Task Force will focus on three major questions: "Should the State participate in the project? If so, how and to what extent? And what are other prudent and competing uses of the State funds?"

Working with the two legislators are Natural Resources Commissioner John W. Katz, Revenue Commissioner Tom Williams, and Attorney General Wil Condon.

Earlier activities by the Task Force included an early December meeting with Northwest Alaska and its investment bankers, and the hiring of a national investment banking firm to assist the State in the financing evaluation. The firm has started to compute a risk analysis

model, as well as the evaluation of the relative risks and rewards to the State of any proposed investments in the project. Information is also being gathered from the nation's major investment banking institutions and the North Slope gas producers. An interdisciplinary staff group from the Departments of Natural Resources, Revenue, Law, Budget and Management, and the Legislature has undertaken in-house research on financing issues.

A preliminary report will be made on key issues to the Governor and the Legislature on March 1, said Fahrenkamp. Under scrutiny are the costs and benefits to Alaska of the Northwest project, in-state use of gas, Alaska's financing capability, Alaska's comparative investment opportunities, and the regulatory and tax implications of State participation in a private industry project. Also under examination are Prudhoe Bay gas marketability, impact of proposed gas deregulation, availability of investment capital, and the proposed financing structure of the Northwest project. "Although we may not reach a definitive answer within the time frame set out by the Task Force, we do hope to develop sufficient information to conclude whether to continue with a more indepth analysis regarding the State's interest in participation. This conclusion will partially be based upon the proposed financing package by Northwest, which is expected during the study span," said Fahrenkamp. "By some time in March we should be able to recommend to the people of Alaska, the Legislature and the Administration whether or not the state interest in participation in the project is feasible, cost beneficial and in the overall best interest to the State of Alaska."

Alaska State Legislature

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Senate

Committee on Resources

February 17, 1982 Courtroom A
1:30 p.m.

With the House Oil and Gas Committee

MEMBERS PRESENT

Senator Fahrenkamp	Representative Halford
Senator Gilman	Representative Bettisworth
Senator Mulcahy	Representative Cotten
	Representative Rogers
	Representative Randolph
	Representative Bylsma

Interim Briefing on Financing of
Alaska Natural Gas Transportation System

John Katz, Commissioner, Department of Natural Resources, said the State supports the waiver package, and has been advised that the current lawsuit won't prevail. The task force, which is looking at state participation in financing the line, marketability of Prudhoe Bay gas, and alternative investments available to the State, will report their initial findings and recommendations in early March.

Darrell McKay, Northwest Alaska Pipeline Company, reviewed 1981 accomplishments: completion of the Canada-to-California portion of the pipeline; passage of the waiver package; and inclusion of the conditioning plant in ANGTS. Northwest is confident Alaska gas is marketable. Ten pipeline companies are committed to equity and debt financing. Foreign assistance will be needed. The producers and banks are working to determine terms of the financial package. Mr. McKay stated that he thinks the pipeline is a good investment for the State, and hopes the State will guarantee a share of the project debt. Completion goal is late 1986. Estimated cost (in 1980 dollars) is $39-48 billion.

Cecil Chapman, Engineering Services Manager, Alaska ARCO, Inc. spoke for the Prudhoe Bay Filed Owners. They support early gas sales, but think a delay in sales will have little effect on ultimate oil

recovery and no significant impact on ultimate gas recovery, except for the amount of gas used as fuel for re-injection purposes. Delays in sales will impact field facility and operational requirements. Interest in the Field can be best served by simultaneous production of oil and gas.

Ken Showalter, Director of State Government Affairs, SOHIO, said he is in accord with Mr. Chapman's statement.

Joe Schell, Alternative Energy Groups Director, Kidder-Peabody, said they had reached the following preliminary conclusions: ANGTS is the most viable alternative for delivering natural gas to the Lower '48 in this decade; the gas is marketable; ANGTS has definite net benefits to the State; State support will enhance the probability of ANGTS becoming a reality; and the State can support a financing plan with minimum risk.

Ken Seplow, Vice President, Kidder-Peabody, advised against both equity and debt investment. He urged the State to provide a contingent commitment supporting completion of the pipeline. Risk could be minimized by "backloading" (State funds could be invested near the end of the project), and the State would receive compensation for taking the risk. Seplow concluded by suggesting that the legislature express their general support through a resolution listing conditions of participation.

The meeting was adjourned at 4:20 p.m.

Alaska State Legislature

Offical Business

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SENATE
Resources Committee

POUCH V
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March 31, 1982
1:35 p.m.

Senate Finance Room

With the House Oil and Gas Committee

PRESENT

Senator Fahrenkamp	Representative Halford
Senator Fischer	Representative Cotten
Senator Gilman	Representative Randolph
Senator Mulcahy	Representative Vaska
Senator Sturgulewski	
Senator Colletta	

Briefing on Financing of
Alaska Natural Gas Transportation System

John Katz, Commissioner, Department of Natural Resources, called Kidder, Peabody's report comprehensive and excellent, stating it was a sound, thorough analysis of the key issues. He explained that in the next 7-10 days the Task Force would formulate the results of the report into a series of recommendations to present to the governor and the legislature.

Ken Seplow, Vice President, Kidder, Peabody & Co., stated that the report concludes that ANGTS does have the potential to be financially viable, and is the only near-term means whereby Alaska can recognize the value of Prudhoe Bay gas. However, the marketability of Alaska gas continues to be a serious issue, and there is no definitive financing plan for ANGTS at this time. Kidder, Peabody recommends a $3 billion, or 1/8 of project cost, State participation based on the following conditions: a minimal risk of loss, no significant appropriation of funds before 1988, and satisfactory mitigation of the risk of marketability. Seplow stressed that the State's participation would improve the chance of ANGTS being financed, and explained that the recommended $3 billion investment would be debt financing, which is a low risk, low early funding approach. He advised against equity investment on the part of the State because of the high degree of risk it would ential, the limited investment return it would provide, and the policy conflict it would create with the State as both regulator and investor. He further suggested that the State's guarantee be limited to the construction period only, be a portion of the last $7 billion to be spent, and be conditioned on the first $20 billion having been spent

as scheduled without any cost overruns. The amount and form of the State's compensation would be negotiated, and could involve a lump sum or acquisition of an equity type security. Seplow concluded by saying that although the State cannot be expected to make a definitive action now, as it has not been given enough details and facts, the wheels can be set in motion through a legislative or administrative action showing the State's willingness to entertain the idea of financing, and authorizing negotiations to take place. There is need for action to be taken soon if the project is to stay on schedule, as long lead time must be allowed for purchase of equipment and the FERC permitting process must be entered into. This negates the opportunity for a vote of the people on State participation. Since a pledge of specific revenue would require approval of a majority of voters voting in a general election, Seplow suggested that the State should instead add its moral obligation to debt issued. There is already authorization for a moral obligation structure in the legislation creating the Alaska Gas Pipeline Financing Authority, although the legislation would have to be modified in some respects to be a useful vehicle for the negotiation and/or implementation of the State's financing participation.

Joe Donohue, Deputy Commissioner of Taxation, Department of Revenue, stated that all Kidder, Peabody's alternatives fall within constitutional perimeters and would be procedurally possible. The Department of Revenue is not prepared to make specific recommendations at this time, but does agree that the legislature should make a gesture this session if the State is willing to participate in the financing of ANGTS. There was some discussion of pledging a portion of the income from the Permanent Fund to secure debt; it was noted there may be Constitutional problems with this option.

Milt Barker, Fiscal Analyst, Legislative Finance, stated that ANGTS offers the State a potential benefit of $5 billion (in today's dollars) over its 30-year life. This benefit is exclusive of any investment on the part of the State.

The meeting was adjourned at 3:15 p.m.

TO TESTIFY:

JOHN KATZ - COMMISSIONER, DEPARTMENT OF NATURAL RESOURCES

DARRELL McKAY - NORTHWEST ALASKA PIPELINE COMPANY

CECIL CHAPMAN, ENGINEERING SERVICES MANAGER -
ALASKA ATLANTIC RICHFIELD COMPANY, INC.

KEN SHOWALTER - SOHIO PETROLEUM COMPANY

KIDDER-PEABODY PANEL

KEN SEPLOW

JOSEPH SCHELL

OTTO LOWE

~~ROGER PYLE~~ no

Hearing - Juneau
February 17, 1982

Betty Fahrenkamp: I would like to call this overview to order, and first thing off thank those of you who have agreed to participate today on such short notice, we really appreciate it. As most of you know, today's overview hearings are co-chaired by the Senate Resources Committee, and by the House Oil and Gas Committee, and the charge before us today is to gain an insight to be brought up to speed with regard to the progress and movement towards the possible financing of the construction of the Alaska National Gas Transportation System.

We approach today's hearing with a sensitivity that at this point negotiations are ongoing between Northwest Alaskan Pipeline, the national and international banking community and the North Slope producers. Today's focus is on information and education within those constraints, both of which are necessary for all parties to understand their roles and actions in ultimate completion of the project. This hearing, in nature of an overview, will be followed by additional hearings dealing with broader questions of policy and mechanics of the financing participation of the State, and the financing of the project.

As a point of background, in late November Governor Hammond recognized the need for the State to seriously consider its position vis-a-vis the construction of the Alaska National Gas Transportation System. The Governor organized a task force to specifically look at the general questions of the advisability of State participation in the financing of the System. The task force was constituted of Commissioners from the Department of Natural Resources, Revenue, the Attorney General, a couple of the Representatives from the House, representatives of Alaskans, and myself.

Our first witness today will be Commissioner Katz, and it is my understanding that he will be giving us overview of the task force basic charge and outline the task force activities to date in approaching the issue of State participation in the financing of the Alaska Natural Gas Pipeline. We also have with us representatives of Northwest to give us an overview of their efforts to secure a financing package and an update of their progress inasmuch as possible under their negotiation constraint. Representatives of the North Slope producers will address, from their perspective, just where the financing package is, as well as address technical questions related to the question of the effect of continuing re-injection of natural gas to the Prudhoe Bay field, and finally, we'll have interim report from the representatives of Kidder Peabody, an investment banking firm retained by the State to address the questions of financial feasibility of the project, and general questions of how the State's interests may be best served in the participation. With that out of the way, Rick, do you have anything to add?

Rick: I think I would just reiterate that we do understand the negotiating position that most of the participants are in, and I think it's important that we maintain a sensitivity to that negotiating position. I would hope that we get an adequate update of where we are and

maybe we can define some of the alternatives without prejudicing any future options that may be presented at a later date in the future reports.

Fahrenkamp: I think the procedure we'll follow is to have each group make their presentation, then we'll have questioning after each presentation, and we hope to be finished by 4:30 since the majority of my committee, I know, are catching planes for the coal conference in Anchorage and need to have me to be gone. Commissioner Katz?

Katz: Thank you, Madame Chairman. .....to the current efforts is a letter that President John McMillian .....Governor in late November asking that the State reconsider its position on participating in the financing of the gas pipeline project. As a product of that letter the Governor, as you have already indicated, is the forming of a task force of the three Commissioners you mentioned and asked that the President of the Senate, the Speaker of the House, to make acquaintance as well, which was accomplished. We then went back to Washington for two principal purposes. First was to interview a number of possible investment counselors to the State on the pipeline issue. And out of that investigation we chose the firm of Kidder, Peabody ..... for the State, on contract since that period of time. We also met for the first time with Northwest and its bankers in an effort to start the ..... that is necessary to investigate all the alternatives. In the midst of those discussions of the gas pipeline waiver package passed the United States Congress. That package provided a number of waivers deemed very important to the financing of waivers of President Carter's original decision, and I think it was the general consensus of all concerned that while that waiver package was a necessary prerequisite to financing, it was not necessarily the only factor. The State examined the waiver package and felt comfortable with it and expressed strong support for during the congressional deliberations. We're responding in advance to questions which I think are likely to come. The waiver package is now the subject of litigation that has been filed by Senator Metzenbaum of Ohio and some other congressmen-senators. The principal allegations relate to the alleged violation of rules of the Congress and certain other technical aspects. We are advised by our lawyers that the lawsuit is pretty frivolous on the merits. It is pending in the Court of Appeals, there's an expedited review procedure there, but that any decision of the Court of Appeals can be appealed to the United States Supreme Court and there's at least some ..... there will be more delay incident in that process.

As a product of our discussions in Washington we came back and formulated a work plan to govern the remainder of our activities. That work plan addresses two principal questions. Should the State participate in gas pipeline financing, and the second question - if so, how? The perspective that I think all of the participants in the task force have brought to those deliberations is one of hard-headed business people. We feel that we must look at all the same factors that the investment banking houses are looking at in their decision to participate in the financing, and then, in addition, look at certain other factors which are unique to Alaska as a State government, including the

impact on royalties, severance taxes, and secondary and tertiary benefits in the State's economy. We have formulated a number of subsidiary questions in an effort to respond to those two principal questions. They range from questions relating to the marketability of Prudhoe Bay gas to alternative investment opportunities that are available to the State of Alaska, and the impact of any particular proposal on the State's credit rating. Since the formulation of that work plan which we made available to both legislators and the media, we have been proceeding on two parallel tracks in an effort to answer those questions. On the one track, Kidder, Peabody, as they will indicate later, has been pursuing a number of questions. They have met on several occasions and exchanged information with Northwest and its financiers, and they are branching out beyond those discussions to interview other people with perspectives on the pipeline.

Secondarily, we have formulated an interagency task force of technical people and experts in particular disciplines to answer certain other questions which we felt were more appropriate for State's scrutiny and response than they were for the help of outside advisors. Those two parallel tracks will come together in early March in the form of initial findings and recommendations to the legislature and the Governor. At this point in time we're not certain exactly what form those findings and recommendations will take. We have condensed what might otherwise have been a very lengthy process into a relatively short period of time. I do think that the report will hit all of the major considerations in determinants that will influence subsequent decision-making and at that point in time we may also identify any other areas that might require further scrutiny in the future.

Fahrenkamp: Thank you, Commissioner. Before I open this with questions, I want to clarify the record. I think everybody knows this is Representative Halford, and not ..... we'll get that out of the way right now. Sometimes I don't even know my own name. Are there questions from anyone? Go right ahead, Sam.

Sam: Thank you, Madame Chairman. I guess I had a couple questions, I wasn't sure how definitive you were on the advice that Kidder, Peabody has offered to us so far. That's one question, and secondly, you mentioned and I think most of us appreciate that the waiver package wasn't all that was necessary as far as the hurdles that the builders of the pipeline had to get over. How significant was that, would you say that was half the battle, more than half, less than half, and can you define the other significant hurdles that still loom in front of us?

Katz: I would be interested in the perspectives of the others too, but it is hard to quantify in percentage terms, I would say that its failure to pass would have been a determinantive point in the process that the project would not have proceeded beyond that point. It does lay a good basis for future reference to formulate the financing package because it resolves a number of important concerns to financiers, particularly the issue of pre-billing. There is an allowance in th ir pre-billing prior to completion of the whole system. I would say that it would be risky to put it in percentage terms, the really key events

now, I think, are involved in Northwest's negotiations with the producers and with the other pipeline companies, another aspect of the waiver package was to permit producers to participate more in the equity financing, and that is an unfolding process where I don't think any one event is determinative but there is an effort to achieve sort of a critical mass of financing which Northwest hopes to do in the reasonably near future.

With respect to your first question, we originally felt that because of the short timeframes involved, Kidder would not have had the time to really to formulate any substantive conclusions that they could share today with respect to the financing issue and whether the State ought to participate. We have met with them this morning and I think thanks to their diligence and the real cooperation they have received from Northwest and others, they are going to be in a position to go beyond merely stating what sorts of activities they have undertaken so far and will be presenting at least some tentative conclusions on the basis of the work they have done so far.

Sam: Commissioner, do you expect them to, which questions do you expect them to get involved with? Should the State participate, or do you expect them to get involved with the second question, if so, how?

Katz: Well, each of those questions involves a series of subsidiary questions. Should the State participate does involve certain questions which we have asked them to express opinions on, the marketability of Prudhoe Bay gas, other concerns of that kind. Also, the question of if so, how, very much involves them, at least initially there were a number of competing possibilities or alternatives for financing, but in each of those questions, some of the questions are being answered by them, the subsidiary questions some by the State task force, for example, a question we felt, two questions that we felt we have better expertise on than any outside counselor might, would be, one, what legal constraints, constitutional, statutory, or others, might exist with respect to any particular option, and the second one is what alternative investment opportunities might there be for the State. But both questions as your question implies involved the major policy decisions and of course Kidder and I in my capacity as chairman of this task force, view ourselves only as advisors to you and the Governor, who will be making the ultimate policy decisions.

Representative Randolph: Yes, a follow-up on those questions, what timeframe do you see this all developing in? At what point are we going to have the answers to those questions and be able to consider them.

Katz: We think that we are going to have firm enough answers to give you advice that we feel is creditable in early March. Exactly when the financing package may come together is anybody's guess, but Northwest is making a real effort to do it in the first half of this year, and one of the options at least would be available for the legislature to consider given the fact that you may adjourn before the package has totally crystallized, might be some sort of a statement of principle in which you would identify those conditions and stipulations that might govern

any State participation, should you get over the initial question of should the State participate at all.

Fahrenkamp: Are there other questions? Representative Cotton.

Cotton: I didn't want to take more turns than was due me, but Commissioner, you mentioned that there might be an impact on taxes, severance taxes, depending upon what kind of a decision the State makes on participation, I wonder if you could expand on that a little bit.

Katz: Well, the crucial question is, who does the value to the State if the natural gas remains in the ground, I guess there's some who believe that that might in itself be a prudent investment. There are many others that feel that that's not the case, that the most prudent utilization of that resource would be for the State as a one-eighth royalty owner would be to market it. Certainly it is only at the time of production and transportation that our one-eighth royalty interest would quantify itself in terms of dollars and it is only at that point in time that the State's severance tax would become operative, so in addition to the factors that the banks are looking at, like the marketability of Prudhoe Bay, etc., that seemed to be a concern that was sort of uniquely Alaska's that we ought to try and quantify and address in a report to you.

Cotton: Thank you very much.

Fahrenkamp: Other questions? Representative Rogers.

Rogers: Commissioner, you said perhaps adoption of some sort of statement of principles setting conditions might be appropriate, would that be the kind of statement that was contained in the gas pipeline financing authority legislation in 1979?

Katz: Yes sir, something like that, I'm not trying to prejudge the answer to the first question, which is whether we should, but we have tried to sort of predict that in our effort to create a logical sequence leading towards State decision-making, and it probably will be the case that the financial package despite Northwest's best efforts will not crystallize within a 100 or 120 days, the deadline for adjournment, and it seemed to us that if you chose to go that route that that might be a good way of sort of signalling Alaska's interest, the State will participate if, or the State will not participate unless an actual (?) listing, a series of conditions, and it is my understanding that most of the major commercial banks that will be participating will probably participate on essentially the same sort of basis for the letter of commitment in which announced to a statement of principles that identifies those conditions under which we might participate. One advantage to that is that the State then if the State makes a decision to participate, would be a key player in the process and then in our judgment could influence other decisions that very much relate to State interests, for example the wellhead price, etc.

Rogers: At the time you said by early March you should have some firm answers, at that time would you be suggesting to us what conditions you think we might want to consider, again if the decision to the first question is yes at that time or if your suggestion is yes, would you be suggesting conditions to us?

Katz: Yes, the answer to your question yes, I've asked Kidder, Peabody to look at that from their informed expertise, and of course there'll be other issues that may well be of concern to the State government including the legislature which would not occur to outside advisors, and we would probably also at least propose those as options for your consideration.

Rogers: Thank you.

Fahrenkamp: Thank you Rogers, further questions so we can move on?

Q.: I'm sorry, I think, Madame Chairman, that Representative Rogers raised a very significant point there, I think, in that what instrument, are you suggesting that the legislature should pass a conceptual conditional statement of principle that would later be able to be negotiated as part of the financing package?

Katz: I don't want to get out ahead of the process and my raising this at all was an effort to respond to an earlier question about what sort of sequence from here to the end of the process and at least one option that may not be the only option, it is not one that I am suggesting now because we haven't gotten there yet. I can't honestly represent to you from the State's point of view this would be a good deal or not a good deal, from at least my personal point of view, because we haven't been exposed to the whole analysis and we're about three weeks away from that, but if we were to get over all those very important preliminary questions one method for the State to express its collective voice that would be cognizable in the financial community and would actully be of value in determining what the State's role would be, would be perhaps a resolution that embodied a statement of principles together with conditions and stipulations.

Fahrenkamp: Perhaps I can help there too, Representative Cotton, in that I may not stressed enough that this is strictly an interim report and those decisions are down the road, even though he's looking at early March, there's a lot of work to be done between now and then. Is that not correct, Commissioner?

Katz: That's right, and I think too, Representative Cotton, we're all in agreement that even if the process will ultimately lead to financing, probably that final decision will not be known, therefore at least known in March or April, therefore I don't think anybody would want to suggest that the State take some final action like appropriating x amount of money, or establishing a fund, or whatever at that point in time, and it isn't necessary, the financial community is not asking for that, Northwest is not. Some lesser alternative is the one we were discussing would suffice for this interim period.

Cotton: Thank you for your indulgence, Commissioner.

Q. Madame Chairman, I'm sorry but it seems to me that talking about the process, there may be further problems, obviously this legislature can't bind the next legislature into any action and again, if we were to pass something saying these are the conditions this legislature would accept or would want, the actual appropriation decision wouldn't be able to be made until after, since what you're saying after financing agreement were reached, would that mean waiting and presenting that to the next legislature, or would a special session to consider the issue, or how would you make the transition from if you didn't do it by special session, how would?

Katz: Well, you're obviously correct about the capacity of one legislature to bind another, that is a course known to all concerned in this process, Northwest, the financial community, et cetera. That is really not a determinative problem, I don't think, the financial community and particularly its public financing experts are used to dealing with that in all governmental situations in a number of contexts, and at some point further down the line, the quote moral obligation of the State might arise depending on what course of action the State had chosen to adopt up until that point, but I don't think that's a problem now and judging from what we've heard and you'll judge independently for yourself when you hear Kidder, Peabody, I don't think that there'll be the necessity for something like a special session. I'm hopeful that if we do our homework and you all deliberate carefully that we'll come up with a work product that we can answer the first preliminary question at all, a work product that's creditable enough to carry the State forward and be a reasonable game plan for a subsequent legislature.

Fahrenkamp: Further questions. Thank you very much. Darrell MacKay from Northwest Alaska Pipeline Company. Darrell, we appreciate you're being here, you know it was short notice, and I want to say thank you again.

Darrell MacKay: Thank you. Madame Chairman and Gentlemen, we're glad to spend some time this afternoon to tell you where we are on the project. I appreciate your admonition at the beginning, Madame Chairman, on the sensitivity of some of the negotiations that I'm not able to get into in any great detail, on the other hand I think I can shed some light on the process we're going through that might help remove some uncertainties. I know it seems like we don't hear what's happening and what progress is being made, from your standpoint, and I think I can help to some extent there.

1981 was truly a banner year in respect to progress toward completion of the Alaska Natural Gas Transportation System, and I would like to review a couple of the major accomplishments we felt were critical in 1981. Before I do that, though, I would like to pause and just remind ourselves of the objective that we mutually are trying to achieve and particular in light of some of the current world events which sure affect the progress we made and how rapid that progress is made. I just mention three things that has some impact on what we're trying to

do. One, is the extreme testing period we're involved in in the economic situation in our country, and that is certainly affecting us in our ability to put our financing together, and I'll enlarge a little bit on that later as to how we see it particularly, perhaps embellish on the question that Representative Cotton asked about what does the waiver package mean in terms of that omen financing. Secondly, there is an apparent, and I use that word advisedly, an apparent world oil surplus and declining real oil prices. There's also arguably a surplus of natural gas in the lower 48 states, and again I want to emphasize that the critical thing to keep our eye on in that respect is the long-term versus the short-term, and I'll try to enlarge on that more.

In addition we have some strained foreign relations in the U.S.-Soviet confrontation that's currently going on over a natural gas pipeline from serving Western Europe from Siberia. In spite of all of these difficulties and uncertainties there are nine major U.S. natural gas companies, of which we're one, three major U.S. oil companies that you're very familiar with here in Alaska, three major Canadian natural gas companies, the Administrations of both Canada and the United States, and the Congress of the United States, and the Parliament of Canada, and we assume as well, the State of Alaska, who all believe that connecting of these frontier far north reserves is in the best interest of the United States and to do it as quickly as we can. Often, those of us who are in the trees lose sight of the forest, that there is a tremendous weight of support for this project in both of these countries and while it may not be in flashy evidence to you from day to day, this whole group has devoted considerable time and resources to companies, particularly money, and I'll bring you up to date on that, to pursue the project, and that's still going on. There's no basic change in the expectation that natural gas will be in short supply, particularly later in this decade. Just an aside on marketability in light of this short-term situation as we see it, and certainly the consultant that we have employed to look at this issue, believes Alaska gas is marketable, even in light of the current oil situation. And that occurs in several ways. One way is that with any potential upset in the Mideast there certainly could be dramatically rising oil prices. Again, we tend to get lulled into a sense of complacency when there's a period of surplus and price reduction. Secondly, there is the aspect of what we call roll-in capacity, that is the ability to average the cost of Alaskan gas which we expect probably will be higher than the market clearing price when we first come on stream, but we can average that in with other lower 48 supplies and still market Alaskan gas. Thirdly, we recently completed some very interesting work on what we call a concept of cost levelization, and that is recognizing the real cost of Alaskan gas will decline, forgetting inflation, because the transportation systems being amortized over time and it's such a huge part of the cost, if we can move some of the earlier costs into the back years, we can compete very aggressively with low clearing prices, and so a combination of all of these things lead us to believe that Alaskan gas continues to be marketable.

It's incomprehensible to us as well, that Western Europe would be willing to rely on natural gas supplies from the frontier area of Russia while here in the United States we could not connect the largest

domestic gas field ever discovered in the United States to our own markets. While as I mention it it does take a lot of dedication, it takes a lot of willingness to accept risk to pursue the project in spite of the delays and obstacles that we've had starting back in 1976, and these delays and obstacles seem to continually pop up, but we believe we're periodically taking care of those as they occur, and we're moving forward. And I'm pleased to be able to say to you today that the commitment is still present and was considerably strengthened in 1981 by all of these companies and parties that are trying to bring this project to fruition.

Let me just pause to give you a few facts from the Company's standpoint. We will have spent, including the cost of money, or have spent, including the cost of money, at the end of '81 over 600 million dollars, in engineering work and all of the other things that have gone into firming the project to the point it is. In terms of the pipeline, we have accomplished about 35% of the detailed engineering, and that's very significant level of engineering. We have not encountered surprises from the geotechnical standpoint in terms of our ability to construct the pipeline, and within the cost estimate that was made in 1980. So we're pleased that the engineering work is proceeding well and that we have not encountered these surprises. About roughly a little less than 30% of that money has been spent in Alaska, which is going on every day and is again something I'm sure you are not aware of all of the time. Last year we had a peak employment of about 1800 people, an average of about 1400 during the course of the year, and somewhere around 25% to a third of those people are located in Alaska, and of that share that's located in Alaska, somewhere in the neighborhood of 75 - 80% were hired Alaskans to do the work. So we think we've done a good job in recognizing the needs of the State and the community in pursuing the project. The Canadians have been doing a similar thing with the people they have working on their aspect of the project, and while prior to 1981 the Canadians were generally ahead of us in terms of their progress, we believe we have now caught up and we're proceeding about on a equal pace. But this doesn't mean we're home free by any means, we're now in the midst of this extremely critical period of putting the project financing together, and that is a private financing plan with private capital. There's often been a misunderstanding that we've gone to the financial community and they have turned us down, and that is a misconception. The first time we went to the financial community represented by four of the largest U.S. banks was last summer after we had reached agreement with the producers on the concepts of a financing plan, and in working with the banks we've since modified that plan and are working very well together and the banks are very positive on our ability to put this together if everyone is motivated to do the job.

Now, let me just pause here for a moment to talk about two areas of accomplishment in 1981 that are important. One is the pre-bill project that I'm sure you have heard about previously which is the concept of building a portion of the system early to transport Canadian gas until the rest is completed for the connection of the Alaska gas. The ground-breaking ceremony for the Western Leg prebuild was held in February, and the Eastern Leg in May last year. The Western Leg

which is some 300 miles of pipeline in Canada and United States was completed and put in service October 1st, and we're now moving gas from Canada through those facilities to California. The Eastern Leg which is over 800 miles long plus another 400 in Canada, about 1200 miles total, is somehwere about three-quarters completed with the remaining construction to be done next spring and summer, aiming to put that in service in the fall of 1982, to move the rest of the Canadian gas to market. So in total, we will have built by this fall 1500 miles or about a third of the total pipeline system for the Alaska gas. An extremely important step forward and it has ramnifications for you in Alaska as well, in that's its been a time of trial to see how the Government-Company interface works in this oversight responsibility, the Federal Inspector, and we think its working well in those things that we are uncovering that need to be improved we can apply in the case of the Alaska part of the facility, so its a good testing ground and it'll be helpful to all of us to achieve coming in on schedule and on budget. I might add that those facilities on the Western Leg did come in slightly under budget and were on schedule. We expect the same on the Eastern Leg as we now see it. So we are not experiencing the types of cost overruns. Agreeably, these facilities are less difficult, the Alaska facilities being the more difficult, but again we're learning from this whole experience and expect to apply that.

The next key event in 1981 that deserves some attention is the so-called waiver package, or the waiver of law that Congress approved in December and was signed by the President which removes certain obstacles that permit us to take this very vigorous hard run at private financing of this project. The first step was the agreement we reached with the producers on the concepts of a financing plan, and then in June we submitted to the President our version of what we thought was needed in terms of a waiver of law to permit us to privately finance. Thereafter followed numerous discussions with Senate and House committee people and the Administration people who were going to be involved in the ultimate decision-making of that package, and a lot of revisions were made, and I'd be kidding you not to say that the package as it came out was a lot less than what we went in with. However we think that its still adequate subject to the final test of our ability to put all the financing together. The President then sent the waiver package to Congress in mid-October and that was followed by committee hearings--a committee in the Senate, two committees in the House, holding substantial hearings and then the vote of both the Senate and the House, and that was finally signed by the President in December.

Basically, what the waiver package did in three critical areas was this. First, it permitted the producers to own equity in the pipeline system which prior to that was prohibited. It was prohibited, however, in the original President's Decision that selected this route for the project, and so as the financing development came to fruition, it became clear that to do it privately we had to have producer assistance and so as its now structured the producers can own equity in the system. Its subject later to Department of Justice review upon the structure to make sure that the producers don't have control of the system, but

that is the key problem, not whether they should own equity per se. So that was a very critical item to permit us to go forward.

Secondly, the Conditioning Plant was made part of the Alaska Transportation System. Prior to that it was a separate system and the costs of the system were to be handled separately, now the Plant is part of the system and we're structuring a tariff which would reflect the cost of that Plant in the delivered cost of the gas.

Thirdly, a change in again the President's Decision was permitted to allow the Federal Energy Regulatory Commission to establish a tariff which would provide assurance that debt lenders would receive payment when a segment of the system that they were investing in was completed. This was the pre-billing concept that Commissioner Katz referred to. From a lender's standpoint this was extremely critical to permit us to go forward, even though we don't expect this event to ever occur, and we're disappointed that it was taken so out of context down in the lower 48 and all kinds of misconceptions as what it meant, but we think the risk of it occurring is very slight, but, bankers are not in the business of taking any risks and we had to accommodate those concerns as best we could.

Those were the two key activities in 1981 that have really helped move us forward substantially, the pre-built project, its status, and the waiver package. But where are we now, and perhaps I need to embellish a little on the background from a financing standpoint because I know that's what you're most interested in. I mentioned the Producer Pipeline Plan that was agreed to in last spring was used. Basically, that plan provided for what we call "project financing", that is, that there would be no independent credit underlying the debt and the equity would be supplied by the participants. The producers in their part would have been responsible under than plan for 30% of both the debt and the equity of the project, and the course of conditions precedent to the whole thing working was that the Plant was going to be part of the system, which ultimately was done through the waiver package. There were other terms and conditions surrounding the plan but that was essentially some of the key features.

We then went to the banks to say, "look here's our plan, help us structure what needs to be changed in the law, (which ultimately came out as the waiver package) to make this thing work." Because of the early nature of the work, they were unable to say that they could assure that we could privately finance if the changes were made but they were able to say that without the waiver package as it was passed, they knew we could not probably finance it, and that's the posture we took at the time and have taken and now are working on trying to implement that. Now the banks in addition said, "you're going to have to make some changes to your original plan. The concept that you don't have to have credit, particularly during construction, will not work. In order to pull this off the sponsors involved, both the pipeline companies and the producers, are going to have to put their existing company credit behind the debt, or let's say most of the debt, in order to make this work." They also said that there's enough money worldwide in order to finance this project, which was a very

positive thing in their report, and this is critical because even with participation of say, the 100 largest U.S. banks, lending ...

... was very critical that, once construction is completed, we go into operation, then the tariff under which the charges are made and the ultimate gas consumer pays those charges, is enough that credit for the project to move ahead successfully, so it's only during this period of construction, or what we call the completion risk, that the banks were saying you've got to have more credit behind the project. Well, we got busy behind that situation and our companies were very disappointed of course, that the concept of project financing as we had originally proposed, was not going to fly. But, we regrouped ourselves and these companies have agreed that they're willing to support some portion of this project debt with company credit in a way that so long as it does not impinge on their other activities to do business in their regions and in a way that the banks can live with, and we are sure because of the experience on the Eastern Leg, which had similar problems, that this can be done. Well, the waiver passed and during that process I think it's important for you to know that in terms of not only the difficulties we had with some of the concepts in the waiver package, another continually nagging question we faced when we visited congressmen and senators and the committees that addressed the issue, was where's the State of Alaska, is the State supporting this, how are they going to support it, what meaning is there to attach that the State's not supporting it, and we're very concerned about that, hopefully, the Governor came down and helped support the waiver package, testified before the committees and Congress in a positive way, although there had been nothing, of course, put together at that point. I might just read one brief illustration of what I'm speaking about and this is in the House Energy and Commerce Committee report following all of the hearings, and so on. "The committee encourages the State of Alaska to examine the benefits of this project to its citizens as well as to the rest of the nation, to recognize the enormous positive effect that any contribution of capital or of credit security would have on the chances of the project to be financed, (and I would add privately which is our charge deal, and nothing's changed in that regard) and to act as promptly as possible in accordance with the conclusions of such an investigation."

I'll come up again back to the State's role and its importance to us, but this is very critical aspect, as a result we're pleased that the Governor established this task force and that the progress that Commissioner Katz just described has been made and is proceeding expeditiously. Following the passage of the waiver package then as Commissioner Katz described to you, there's been a court suit filed. We agree, as well, that this suit will not prevail, our lawyers are in the middle of this right now, but the grounds that have been raised are not, in our view, substantial enough to result in any change. However, we are concerned about the potential of delay and particularly in relation to the possibility of an appeal to the Supreme Court.

That is the background in terms of financing, now what's going on right now -- there's several things on simultaneous fronts that are moving forward, one is that the pipeline companies, and there are nine

U.S. companies, and one Canadian company, by the way, the nine U.S. companies transport 40% of the gas handled in the lower 48, so if we're marketing roughly 20 trillion cubic feet a year, these companies are handling directly about 8 trillion cubic feet a year of that, and their sales to their customers either directly or indirectly will go to all of the lower 48 states except Vermont in some manner. The percentage of Alaskan gas varies but it's spread very widely which is a very helpful thing to us again in terms of marketability. But these companies are determining and have determined and we now have in writing individually the commitments they're willing to make both in terms of equity and the amount of debt support that they're willing to stand behind. Now the four banks that are working with us to develop this plan, those banks being the Bank of America, Citibank, Chase Manhattan, and Morgan, are evaluating each of those companies to satisfy themselves that they can make that commitment. The banks are very concerned that, as the companies are, that they're able to carry out their obligations and still meet this commitment. So that process is going on right now. We're also working with the producers and will be as this pipeline work is completed on their commitment and how high that could be. We're also working with the banks to determine what portion of the debt would not have to be supported by the credit of the sponsors. We know there's some amount, the banks have told us that most of the debt will have to be supported, but there is some portion, particularly the monies spent late in the project when certain conditions have been met, such as being on schedule, on budget, those sorts of things. Late in the project we expect the banks could put a substantial amount of funds in on a non-recourse basis. But they're examining that and we're working with them. That involves a lot of schedule and engineering review to review that. The banks are also addressing the overall viability of the financing and how to structure it to best assure the chance of success, and so in a short period of time they'll be giving us their view of the terms and conditions they would attach to their commitment as banks to loan money to the project. All those things are going on right now and as you can appreciate there are going to be several knotty negotiation problems that will grow out of that, that we're pleased and I can tell you that there is a strong move on the sponsors' part, the pipeline sponsors, the producers, and the banks to get this job done and to get it done as quickly as possible.

How does the State fit into all of this? I was pleased to hear Commissioner Katz's description of how the State is going about its work and we certainly support that approach. We have tried to respond as quickly as we can to provide information to Kidder, Peabody that's necessary for them to make their analysis, and we believe we've been responsive in that area and will continue to be in as open a way as we can, again within the constraints of the negotiations that are going on. We think that this is the best way for the State to determine its role, and it's not better for us to be coming in and pushing some particular plan--we think it's better for you to address the question of should the State invest, and if so how, and for us to be responsive to be sure we supply everything that's necessary.

Now, I should clarify because it may come to your attention anyway, we're proceeding in our planning on the assumptions that the State might not participate, that it may be somewhat difficult, whether the State's participation was critical or not, we're really not phasing (?) on until we put the whole thing together, but we think that really begs the question. We believe that the correct approach is to answer this key question of should the State be an investor, as any business venture. We're confident we can demonstrate that it is an attractive investment, and that we can make it attractive to the State to do that. In that way the State's participation will grow naturally and we think would grow in the right way in such that the important psychological impact of the State being part of this will have been accomplished in the best way possible. But we're working hard to finalize this final financing plan and then to get the final regulatory approvals that are necessary in order to start construction. We hope that you participating with the Administration will decide that the State should be a part of this and that this would be an important piece of your realizing the huge benefits that will accrue in the connection of transportation, sale of Alaskan gas.

Let me close and describe very generally what kind of help we think would be the most beneficial to the project, without in any way trying to usurp because it's not appropriate for us, presumptious of us to in any way try to tell the State what the best thing to do is, but from strictly a project's standpoint, the type of assistance that we think would be most helpful would be some appropriate guarantee of a sure, of project debt, either during the construction period which would be a shorter time period or State funding of a sure of long-term debt, which could go on for any period of time that could be worked out. There are ways that such a guarantee might not have to be drawn upon and I'm very interested to hear what some of the work Kidder Peabody is doing in this area, and further we think that the State could be paid an attractive and appropriate return on any problems without committing to the project to make it an attractive business deal. All of those things however are best left to the State with our providing information to determine.

Madame Chairman, that completes my remarks, and I'd be glad to try and answer any questions you might have. I might say I brought along our last Alaskan Newsline which has some pretty good summary material and goes through all of the things that occurred in 1981, and I'll leave copies of this with you. Some of you may have it but I'll leave that with you.

Fahrenkamp: Thank you very much Mr. MacKay. Are there questions on the part of?

Q.: Yes, Mr. MacKay. I have something I would like to have clarified in my own mind. This is marketability situation, and maybe a brief description from you on just what the pre-billing entails for consumers outside and how serious that is, and how significant that is in total value.

MacKay: Okay.

Q.: Try to, ... question that is that all the information I have is, you mentioned the supply of natural gas on a shortrun basis and ... surplus and a ... do not have, but a lot of good information indicates that there is for a good long time in the future, not a shortage of natural gas, and that fits into marketability question also, would you just ...

MacKay: All right, let me tackle the last part first perhaps, including in context. One very significant example to me that our consultant has raised in respect to his question of the shortage of gas or the surplus of gas, is the amount of reserves in one area of the United States, just to use an example, or to make a point of how rapidly existing reserves are declining and how difficult the job is just to keep up with those declines, the South Louisiana area of the United States has about 35% of the reserves, excuse me, that's turned around, it's 25% of the reserves, but we're taking 35% of our annual production from those reserves in just one small geographic area, that's 7 trillion feet out of the 20 approximately each year is being produced out of South Louisiana. That rate of depletion is about 16% per year of the reserves that are there, so it's a quarter of our reserves and we're producing at that high rate. Now that'll decline, you know at that rate it would be gone in five years unless it's a huge amount of reserves, but it's only declined for, but it's nevertheless an example of the very important decline. A lot of the reserves that are being added, such as the well known overthrust belt are very low producible reserves, so you have to add a lot more reserves to replace what you're taking from South Louisiana, than what's in South Louisiana from a reserve standpoint. So there is a very precipitous decline particularly in the latter part of this decade, and that creates a good part of the need that I'm discussing here.

The marketability question, as I mentioned we feel confident that through a combination of those three things that first, either the gas may be incrementally saleable anyway, that there's, you know we had three major disruptions in Mideast in the decade of the 70's and it only takes one of those to add 50% or 100% to the price of oil, and so we're still in that tenuous situation, and that price affects clearing price for gas in the United States, whereas oil prices rise so does the clearing price for gas.

Secondly, we have this ability to average the cost of Alaskan gas in with other supplies, and then, third, we have this levelization method to move costs from the early years to the back years. Now we're not the only ones that have to be satisfied on marketability, the shippers, the people that are committing themselves to buy this gas have to be satisfied, the banks have to be satisfied, and so on. So all of this will be reviewed, but we're confident that we have the tools to assure that Alaska gas will be marketable.

Your last point, and I think first question in terms of the pre-billing issue, perhaps, to put that in context the first of all, nothing can happen under the legislation as it has been passed before a date certain and that date certain is the expected date of completion of the whole project, Canada and Alaska. That date is to be set by the Federal

Energy Regulatory Commission consulting with the Federal Inspector. So it's an independent objective outside look, it's not the project people setting the date. So they're going to be very concerned to assure that that date is set at a time that can be met. Right now we're talking late 1986 or 1987, then nothing could happen in terms of billing to present consumers before that date. Now after that date, if one of three of the major segments of the project is completed, but others are not, the three segments are the Conditioning Plant, the Alaska pipeline, and the Canadian pipeline as a whole. If one of those is completed, let's say Canada's complete on the target date, but for some reason we've had a delay in Alaska on Conditioning Plant, then present consumers at that time could be charged for the cost of the Canadian system, because it is now complete and ready for service. As I mentioned early on, we think the chances of this kind of thing occurring are remote because we will be close to coordinating the schedule, we know a lot now about what is schedule sensitive and how we can accommodate problems as they occur, so we think the chances of this occurring are remote. Now, however if you took that illumination of that risk to get this project done on a private basis, we're trying to do that, that seems to us to be a small risk for the consumer to take in order to assure the very large benefits that he will get over the life of the project to get this gas supply, and that was the ultimate decision that a lot of the Congressmen decided was important from their perspective.

Fahrenkamp: Are there further questions? Representative Cotton.

Cotton: I have a couple questions, if you're trying to get this thing over with in a hurry I won't ask any questions.

Fahrenkamp: I'm not, I'm just smiling, I have a 4:30 deadline and we have three other people to hear from.

Cotton: Okay I got a couple questions, I'll try to make them real brief. You mentioned as of end of 81 the company had spent 600 million dollars on the project, does that figure include the cost of the so-called prebill in the Western and Easter Legs so that prebill?

MacKay: No it does not. That's strictly the Alaskan partnership that includes none of the lower 48 systems.

Cotton: None of the Canadian?

MacKay: None of the Canadian.

Cotton: So of that money and all the people you're talking about that were working, the 1400 average, the 1600 workforce peak, that was all dealing with the Alaskan portion?

MacKay: Correct, does not include the Canadians or does not include all the work going on on the prebill. That's all separate. And the prebill itself interestingly which between the two countries is between two and three billion dollars, two and a half say, the Eastern Leg in the United States which was a total of about one and a half billion dollars is the largest private again financing ever done on the gas

pipeline in the United States, where again we tend to forget the magnitude of some of the things we're dealing with, but that was done and done successfully on the part of the ...

Cotton: I've been playing around with your figures here, correct me if I'm wrong, 25 to 33% of those jobs were in Alaska and of those jobs 80% were Alaskans, so I get down to about 1 of 8 of the jobs that have been associated with the pipeline in Alaska have been Alaskans who have been hired, would you say that I've unfairly manipulated your figures by saying that 1 of 8 jobs are given to Alaskans?

MacKay: Well, I think yes it is unfair and I think the fair way to look at it is what have we done in respect to the people that are located in Alaska. You know it's tough to say you can attract Alaskans as much as they love this country up here to California or Utah or Washington to work on the project, or Houston, but of the people that have been brought on of the total complement in Alaska, the key figure is this 75-80% have been Alaskans. We think that's darn good performance.

Cotton: Of the jobs that are in Alaska?

MacKay: That's right.

Cotton: A couple of real quick questions, right now the Western Leg is sending Canadian or Alberta gas to California, is that correct, as it's operating as of the first of October?

MacKay: That's correct.

Cotton: And the other Leg will be operating this fall, last thing that the National Energy Board in Canada has allowed, as only a certain timeframe for a commitment of Alberta gas that you're able to use, I understood it's about five years, is that correct?

MacKay: The licenses under which that gas is moving varies between the two legs but it's about an average of six.

Cotton: Okay, so what would happen if the National Energy Board didn't allow any further export from Alberta to the West Coast of the United States, would that pipeline then have to just wait until the Alaskan section got through, or I suppose you'd pursue other alternatives, but that would be the point it would be empty until Alaska's gas came on board, is that correct?

MacKay: That could happen, we don't expect it to happen, the National Energy Board is right this year having what they call an omnibus export proceeding to look at all exports to the United States and our group is back in looking for an extension of those licenses to go further because companies in our group need both the Canadian and Alaskan gas which comes back to the question of need and marketability that they're really pursuing both supplies. The contracts are for 12 years, initial term of the contracts is 12 years and we're trying to extend the licenses.

Cotton: Okay, so probably then your goal is to get Alaskan gas to where in Alberta is the hookup there?

MacKay: A place called James River.

Cotton: James River, so you want to get Alaskan gas to James River probably sometime in 1987 or 1988, is that what you're still shooting at?

MacKay: Well our current schedule is late 1986, we're really currently about reevaluating that in light of where we are, what happened on the waiver package and we'll be able to address substantially where we are on that schedule next month.

Cotton: Do you expect to have it later than late 86 then?

MacKay: That's very tight. That schedule is very tight.

Cotton: Late 86 is very tight, does that mean that you still expect to really meet that?

MacKay: It could be met but it's very improbable at this point.

Cotton: You don't want to, your most probable date -- if I step over these provinces of sensitivity please let me know.

MacKay: Yes, no we really are very thoroughly re-evaluating that in terms of the steps on financing, regulatory steps and construction, and we will be in a position to lay that out particularly to the Federal Energy Regulatory Commission next month.

Cotton: In terms of other re-evaluations, when somebody asks you these day what is the total cost of the project, what are you saying these days?

MacKay: Well, let me try to put that in context, and I'll try to deal with some ranges because I think that's the best way to get a feel for this, there's a lot of ways to present capital costs so one must be sure they understand what is being presented. The first figures I'll give you are 1980 dollars so we are not including either contingency or interest on debt during construction in these figures.

Cotton: Without contingency -

MacKay: Excuse me, not contingency, inflation or the interest on debt during construction.

Cotton: Without interest on debt during construction?

MacKay: The total project, including Canada and the lower 48 and including the facilities now under construction, the prebill, varies from about 17.5 billion dollars to 23 billion dollars with and without contingencies, in other words, in the lower figure there are no contingencies and in the higher figure we have provided both what we call normal contingency and abnormal events.

Cotton: 17 to 23 is the range without inflation and without interest on debt during the construction period?

MacKay: That's right.

Cotton: So you're gonna add those to, just putting it in perspective, what you're doing?

MacKay: That's right. Now to bring those figures in, of course one has to assume inflation rates and interest costs which is at best a difficult thing to prophecy.

Cotton: Excuse me, just one real quick ..., since the Conditioning Plant is now part of the System, I assume you're adding the cost of the Conditioning Plant in with the figures you have just given me?

MacKay: Yes, the Conditioning Plant is included in those figures.

Q.: Excuse me.

MacKay: Yes.

Q.: In the 17 and a half to 23, does that, did you say that that included the Eastern Leg and the Western Leg and the prebuilt system?

MacKay: ...

Q.: ... I think that's what you said for the Eastern Leg, or over a billion anyway, that somewhere between a billion and a half, two billion dollars has been already spent or committed?

MacKay: Yes. That's right, and now when I get to inflated numbers it's easier to deal with that because those facilities are being built early so I'll put that in perspective with you on the total project. Now, if we look at inflation rates in the range of say 7 to 11% and interest rates in the range of 10 to 14%, the costs of the total project again would vary from roughly 39 billion dollars to 48 billion dollars. I want to stress there that you can, to see the importance that inflation and interest have on the total project costs, as you can see it's over half of the cost, now of that range about two and a half, or a little over to 2.7 billion, depending on the ultimate cost of the Eastern Leg will have been the prebill, so the net cost after prebill for the completion is in the range of say 36 billion to 45 billion dollars, and I'm sure you have seen publicized the figure of around 40 which is generally in the middle of that range. Again that's inflated dollars and including interest on debt and its important to recognize how big a share of the total cost that is.

Cotton: Is that a recent estimate and do you expect to have a re-evaluation of those numbers any time soon?

MacKay: We are as a group of sponsors very carefully addressing what amount of money needs to be financed and that involves estimates and inflation and so on. I don't expect that that would be outside of this

range that I just presented, that that's pretty good part of the overall financing activity. This estimate by the way, was the base behind this estimate particularly the pipeline was made in 1980 was filed with the FERC in mid-1980 and we filed some recent adjustments to that base but that base has held very well during the course of the additional field programs that we've done and engineering work we've done, so we're confident in our cost estimate.

Cotton: One final question, you finished your remarks with a discussion of what forms the State's participation might take and you were very careful to phrase it in a way that wouldn't offend the legislators up here, I suppose, but you suggested though both times that the debt was the area that the State should consider if we were wanting to know what your preference was, and you didn't mention equity, and maybe I just misunderstood what you had to say but you considered short term or project debt the first preference, long term debt the second preference, and please correct me if I'm wrong, and then you didn't make any mention of an equity investment by the State, maybe you could expand on that a little bit as to why you left out equity, or in fact did you leave that out, as more -

MacKay: In terms of our preference, yes, and there are a couple of reasons, one, we are able to raise the equity with the present group's sponsors that are supporting the project that we're able to include the producers as we may now do in the, under the waiver package that was approved, so our difficulty in putting the plan together is not with equity, we can put together the equity appropriately.

Secondly, we see some difficulty from the State's standpoint in participating in equity because of its dual role as regulator as well as investor. Now there may be some ways to get around that that could work, and we're certainly open to discussions of any nature, I don't want to foreclose any discussion that may be fruitful in this area.

Thirdly, we had observed and this was back in 79 but when Governor Hammond at that time was writing the President describing the status of things he said this, he said "I must note that in my travels through the State I have seen little support for the concept of equity participation in the line because Alaska's citizens believe that the project is strong enough it will be able to attract equity in private capital markets. So putting all that together we just haven't pursued that.

Fahrenkamp: Are there other questions. Thank you very much Mr. MacKay.

MacKay: Thank you.

Fahrenkamp: Cecil Chapman, Engineering Services Manager for Alaska, Atlantic Richfield Company.

Chapman: Madame Chairman, my name is Cecil Chapman and I'm with Arco Alaska in Anchorage. Just by way of background I've been in Alaska since 1969 and have followed the development, initial

development ... startup in production and now forward planning for Prudhoe Bay fields. My purpose in being here today is to share with you a statement which has been prepared by the Prudhoe Bay working interest owners regarding the effect of delay gas sales on Prudhoe Bay performance and development. Copies of the statement have been furnished to you, it's a three page statement, I would like to paraphrase from the statement at this point. Prior to the field going on production in June 1977, a gas sales of 2 billion cubic feet per day were anticipated starting as early as 1982. All of the studies done by the major working interest owners indicate that the optimum operating plan for Prudhoe Bay includes early gas sales, and that the reservoir can be managed such that the gas offtake will have little or no effect on ultimate oil recovery. Considering that the Prudhoe Bay unit gas and associated liquids are approximately equivalent to one third of the total recoverable hydrocarbon reserves of the producing reservoir and that simultaneous oil and gas sales can allow lower economic production limits in abandonment, the unit owners certainly very strongly support early gas sales. With regards to reservoir performance and plans and the impact on these areas the performance of the Prudhoe Bay Sadlerochit Reservoir is and will be for some time dominated by the expansion of the large gas tap. Assuming that gas sales occur by early 87 production of gas will have increased to the point that the entire production volume to support 2 billion cubic feet per day of sales can be produced from the oil wells, and I might clarify that the w the expansion of the gas cap into the oil rim area we're seeing increases in gas/oil ratios and wells such that the producing oil wells will actually allow the production of the gas volumes that will be required in order to satisfy the gas pipeline demands.

The associated gas production that is produced in excess of the fuel and other consumption requirements is currently being re-injected into the gas cap by use of the central compressor plant and this will continue to be the case until the start of gas sales. Now with the startup of sales the field gas handling capacity will increase by approximately 500 million cubic feet of gas per day. The central compressor plant as it sits there today and incidentally, this past summer we just brought up a 13th compressor unit there which allows us to achieve an inlet volume to the gas compression plant facilities of approximately 2.1 to 2.2 billion cubic feet of gas per day. With the startup of sales we would add a field offtake of about 2.7 billion cubic feet per day and this is specified in the field rules for Prudhoe Bay units, and this would allow us to increase up to this additional level of 500 million cubic feet of gas per day. Now this increase is significant in that it does allow an increase in oil production from high ratio wells and initially this increase in oil production would be something on the order of a hundred thousand barrels of oil per day. Now the benefit will erode of course with further increases in gas production, but expanion of the gas handling capacity will allow us to provide incremental oil production for some period of time. A delay in the commencement of gas sales is not really expected to have a significant effect on the ultimate recovery of Prudhoe Bay. In previous public testimony the unit working interest owners have stated that delay in gas sales until substantially all of the oil has been recovered could increase the oil recovery approximately one percent of the original oil in

place. Less drastic delays on the order of say one to three years will have an even smaller effect. Also gas sales timing impacts on oil recovery are tempered by the initiation of a major water flood in 1984 to which the unit owners are already committed and this project is very much on schedule at this point.

With regard to operating in facility impacts significant delays in gas sales can have a major effect on field facility and operational requirements. In the absence of gas sales in the 1987 timeframe additional facilities would be necessary to provide the equivalent field gas handling capacity again due these increased gas/oil ratios if we're to maintain the production of - these additional facilities and these would be compressors and lines and additional wells and so on, would result in extra capital operating and maintenance costs of about 150 to 200 million dollars for the producers. More importantly continued injection of gas back into the gas cap consumes more forms of energy, each year the gas sales are delayed would require approximately 30 billion cubic feet of fuel gas or the energy equivalent of over 5 million barrels of oil.

By way of summary the objective of the Prudhoe Bay field producers is to achieve the maximum economic recovery of oil, gas and gas liquids. Studies have shown that with sound reservoir management which includes this very large commitment to water flood in 1984 all of the interests in the field can be best served by simultaneous production of oil and gas. This can be achieved by early gas production through facilities installed for oil production and a long term by prolonging the oil production while gas production operations continue to be viable. These combined effects can be maximized by the early realization of gas sales. Delays in gas sales carry penalties associated with the fuel consumed in re-injecting the gas which cannot be sold and with the potential burden to provide extra gas handling facilities to sustain oil production at economically optimum rates.

I guess by way of summary the feeling and certainly the conclusion of the producers is that we very definitely support early gas sales and appreciate very much the interest that this committee has and we appreciate all the support too. I think it was stated in the outset that I would also be speaking to financing, that had not been part of my plan today, so at this point I tender myself for questions.

Fahrenkamp: Very well, are there questions from members of the committee.

Q.: So your point is, you favor construction of the gasline, you don't think it's going to hurt your oil production, is that your point?

Chapman: Yes sir, that is correct.

Q.: Thank you.

Q.: Madame Chairman, if I could?

Fahrenkamp: Senator ...

Q.: In the prepared text, I'm assuming that this was what you were reading from?

Chapman: Yes sir.

Q.: There are several references in here, the gas liquids, and gas, and in your summary, oil/gas and gas liquids, and of course we've all heard the studies about the gas liquids through the Dow-Shell Study, and the producers were a major part of that study, and because of the reference in here, has there been some decision reached in the design of the facility where there would be a ... attempt to separate gas liquids as this financing goes forward in the line?

Chapman: As part of the gas conditioning facilities for the pipeline?

Q.: Yes, in other words the gas conditioning facility now is part of the pipeline, and what, I gues what I'm saying is, what's the status, is that gas conditioning facility going to be set up so that gas liquids can be extracted at Prudhoe Bay, Fairbanks, or has that decision been reached, and maybe I'm even asking the wrong guy, I don't know.

Chapman: Yes sir, I think I would really rather refer that question to Mr. MacKay, he can probably speak more effectively to that particular aspect of ... .

Fahrenkamp: Are there further questions?

Q.: Madame Chairman, with your indulgence I would like to ask that question of Mr. MacKay.

MacKay: I'm sorry, could you repeat that, I couldn't quite hear all of it, in back,

Q.: In the producer's statement here, they make references to not only oil and gas, but gas liquids, and my specific question is, has there been or is there an attempt to be a design of the conditioning plant, so the gas liquids may be extracted at Prudhoe Bay, or Fairbanks, or has it been addressed yet?

MacKay: ... (gap on transcription) additional material out of the gas stream, but the initial design of the plant to extract what's necessary to make the gas transportable through the pipeline.

Q.: Through the pipeline?

MacKay: Right.

Q.: Okay, what happens to the rest of it, because obviously not all the gas liquids can be transported down the pipe, is that re-injected under the scheme now?

MacKay: The present design in, and I might say that all of the contractual arrangements surrounding this situation has yet been put in place as between the producers, the shippers, and the plant itself, but

the design contemplates that some of the liquids would be blended with the fuel gas stream that's used on the North Slope, some of the liquids would be transported or blended with the oil and go through the oil pipeline.

Fahrenkamp: Representative Bettisworth.

_____(?): I'm through for a second, I want to think about that last one.

Bettisworth: Okay, thank you Madame Chairman, in regards to the gas liquids, as a percentage of the gas liquids in the gas that will be extracted, what percent's going to go down the pipeline? If your gas volume runs 16-18% gas liquids, how much of that, those liquids are going to go into the gas stream, or go down the pipeline?

MacKay: Oh, I'm sorry I can't answer that question. I don't have in mind the, how that is, how those volumes are shared.

Bettisworth: If I may pursue this just a, just a touch, Madame Chairman. Most Alaskans and myself included are particularly interested in the gas liquids because of the value added possibilities, even for just minor manufacture, and the gasline that's going into the States is a dry gasline so those liquids are going to come out somewhere, and apparently they are going to come out somewhere in Alberta, and they're gonna be should be in such volume that the large percentage goes down the pipeline to create a substantial petro-chemical industry, and recognizing that they all, there is an existing industry in Alberta that could probably handle it, Alaskans would very much like to have something like that up here, and that's going to I'm sure be weighing heavily in the minds of those legislators who are looking at any possibility of help in the financing field as to what happens to those liqiuds, and I for one feel quite strongly that way and I think there probably are others.

Fahrenkamp: Representative Bettisworth, I'm sorry that we did not in our invitations to them or in any way prepare them for the questions that they're getting now, (babble), are there further questions?

MacKay: Just one quick comment, there will be no liquids extracted in Canada, I can assure you that. This will be a separate system and the contractual arrangements and the tariff arrangements will assure that that does not happen. It is contemplated that what would happen is that the gas, the heating value that's present will be sold in the form that is delivered.

Q.: Madame Chairman, if I may?

Fahrenkamp: Representative Ray (?)

Ray: Recognize that the gas liquids increase in BTU value, cubic foot gas considerably, your suggestion that is not going to be then dry gas exported from Canada into the lower 48, that it will have a liquid gas mixture in it that will increase the BTU's?

MacKay: No, technically it's difficult to directly address what you're getting at, if the stream can be gaseous or vapor and still have hydrocarbons in it that could be liquified, for example the component that's most valuable for petro-chemical development is ethylene, in ord. r to make ethylene, well that's a very common part of natural gas stream delivered every day in the lower 48, and it doesn't take a liquid form unless it's specifically extracted and used as a separate product, so I think the answer is yes, the material stays in a gaseous form, it's still dry gas in that sense, it's not in liquid form as it's delivered to the consumers in the United States. Does that help somewhat?

Ray: To a degree. Okay if I may just one more and then I'll be quiet. I wouldn't expect that you'd probably answer this right now, but somewhere hopefully in the very near future somebody will answer it, but it's been rumored and I will concede that at this point it is strictly a rumor and there's lots of talk and hearsay about what's going to happen to this fabulous gasline, that liquid rich gas from Alaska which is supposedly a lot higher BTU content will be traded for dry gas in Canada for a largely increased volume, in other words a cubic foot of rich gas for less rich gas to expand the volume that will be exported to States for sale.

MacKay: I can tell you that there is no substance to that at all with one very minor exception, and that is that we do expect to work out some arrangement with the Canadians to provide gas service to some small communities in the Yukon and that not now receive service, but it would not be for the purpose of liquid extraction, volume is very small so that would be the only exchange of ... ever been discussed, and I'm sure I would know about any such discussions as that heat content of gas is a very critical thing to shippers (garble)

Q.: Very good, thank you.

MacKay: Right.

Fahrenkamp: Thank you very much, are there further questions of Mr. Chapman? Thank you very much for participating, we appreciate it. Ken Showalter from Sohio.

Showalter: Thank you, Madame Chairman. I'm Ken Showalter, Director of State Government Affairs for Sohio, and the previous witnesses have pretty well covered the subjects at hand and most of what I might have said was covered in more detail and probably with more expertise than I could have done, and I'm sure that Kidder Peabody panel will do the same on the financing issue from their perspective, so I'll keep it very short and try to respond to any questions you might have and help you along on your 4:30 schedule.

I do want to emphasize that Sohio is seriously pursuing this project and that's evidenced by an expenditure by our company to date of some 40 million dollars in studies for the project and we've been active in the various negotiations and hearings in various forms regarding the project. A lot of hard work has been done by a lot of people and is ongoing to make the project a reality. We intend to pursue those

efforts to an ulltimate conclusion which we hope is the completion of this transportation system that will allow us to sell the sizeable volumes of gas reserves that we have at Prudhoe Bay. Whether or not the State participates in the project obviously is a question that can only be answered by this body, the legislature. Sohio can't answer that question for you. We recognize that the State must follow this very important matter in the manner that they're doing and we would only counsel that if you come to the conclusion that it is a prudent thing for the State to participate in one manner or another that it be done in a pure investment sense comparing it with other investments that you might have and comparing the benefits and the costs of all of those projects. Beyond that I don't have a lot to say, our invitation included the same question that Mr. Chapman responded to, Sohio is fully in accord with the position that he laid out, our engineers participated in working up that response some time ago and all of the unit owners are in fact in agreement with that statement. With that I'll try to respond to any questions, I'm not a finance man nor a petroleum engineer, but I'll try to respond.

Fahrenkamp: Thank you, Ken, are there questions from members of the committee?

Cotton: Madame Chairman, I think that he answered my questions by saying that he had the same position that the other producers had, so that answers the question I might have had.

Fahrenkamp: Thank you Representative Cotton. I would like to invite the full team of Kidder Peabody at this time, that will be Ken Seplow, Joseph Schell, Otto Lowell, Roger Powell, as you speak identify yourselves for the record, and welcome to Juneau.

Q.: Madame Chairman, suppose we take five?

Fahrenkamp: Five minutes, yeah. We're ready and in good shape.

Co-chairman: As the House Co-chairman I'll call the meeting back to order. Senator Fahrenkamp had to go and take care of another matter, hopefully she'll be back in a few minutes. If you would go ahead with your presentation.

Joe Schell: Thank you Mr. Co-chairman, and members of the Joint House/Senate Committee on Oil and Gas Resources. I am Joe Schell, I'm Director of Kidder Peabody and Director of our Alternative Energy Group within our Corporate Finance Department. With me today are Ken Seplow to my right who is the Vice President of Kidder Peabody and Co-director of our Project Finance Group, and Otto Lowell, also a Vice President of Kidder Peabody whose enviable job is to look after our business in Alaska. One of the other members of our team who is in Alaska today but has left Juneau for Anchorage is Roger Pyle (?) who is the Vice President of our Municipal Finance Group and also a member of our Task Force dealing with our assignment for the State of Alaska.

First of all we thank you for the opportunity to come today and present you with our preliminary findings and I stress the word preliminary from the analysis that we have been doing over the last 45 days since we received the assignment for the State. As Commissioner Katz mentioned our assignment has been primarily focused on two questions. One, should Alaska participate in the financing plan for the Alaska Natural Gas Transportation System, and if the answer to that question is yes, then how should they participate. What is the most appropriate form for the State of Alaska to participate, given its other interests.

To date Kidder Peabody has been, my associates and I have been very active in holding meetings, reading all the various information that has been available on the pipeline and its progress to date. To give you an idea of what has been accomplished, we have had 4-5 meetings with the sponsors to discuss such things as their financing plan, the status thereof, the cost estimate and when that might be relooked at, the marketability of gas, their financial model which shows the returns available to the various equity sponsors of the project if everything goes according to plan, and also had discussions with their offices in Washington concerning the schedule for the FERC proceedings which will be upcoming later this year.

We have also met with the design engineers, being Fluor and Parsons, Fluor on the pipeline and Parsons on the Gas Conditioning Plant to discuss in greater detail the cost estimate to assure ourselves that the cost estimate procedures were realistic, based on our knowledge of how you go about that, and in determining how much sensitivity there is to the number which Mr. (?) ... out for the cost of the Alaskan portion of the pipeline. We have also and most importantly, had constant interaction over the last month and a half with other members of the task force from Commissioner Katz's office and Commissioner Williams' office particularly.

Our preliminary conclusions are as follows: First, our belief, based on our analysis to date is that the Alaskan Natural Gas Transportation System is the most viable alternative available to deliver Prudheo Bay gas to the lower 48 within this decade. That there really are no other alternatives available, and it by itself is a viable alternative. We do not see any significant technical problems in building the pipeline, we believe the cost estimate procedures which have been followed and the cost estimate which has resulted appears reasonable at this time given the amount of engineering which has been accomplished, and although we are less certain of this conclusion it appears to us that the gas is marketable in the lower 48 states, that there may be a requirement to pursue such items as levelized tariffs to accomplish that fully.

We have been struck with the fact that all parties are working on the financing plan are doing just that, they're working very diligently to put together the financing plan. When we first received the assignment we were very hopeful that we could talk to the sponsors in our first meeting and have a full financing plan laid out before us. I think we became more understanding of the difficulty of that and you should be aware of that, that with ten project sponsors pipeline companies as project sponsors and three producer companies, it is a very difficult

task to get thirteen people to agree to anything. A financing plan is a very difficult procedure as was explained earlier by Mr. MacKay, the bank reaction to their first plan has altered their approach that they have taken, the project debt was not appropriate for the project, that the need for credit support to be provided by both the producers and the sponsors, that increases to a great extent the potential liability and potential investment of the various participants and it takes a great deal of time for them to come to an understanding internally within each company and agree among all thirteen companies as to how they want to proceed. That is one of the reasons I think it's taken as long as it appears to have to put together a financing plan, but it's very clear to us that everyone has diligently worked and could do that.

The third item among our preliminary conclusions are the following that we believe that the transportation system has definite net benefits to the State Measuring those benefits is a difficult procedure and is not part of our assignment at this point, but from the work that we have studied on the national net benefits analysis which had been done before and some of the state net benefits analysis which is ongoing right now, we believe they're very significant benefits to the State in seeing that the Alaskan Natural Gas Transportation System becomes a reality.

The sponsors and producers in the ultimate financing plan when it does come to the forefront will be committing huge amounts of their capital, both on an absolute basis, talking about numbers that are in the 20 billion dollar range, 20 to 30 billion dollar range for the total pipeline system, most of that both in the form of equity and credit supportted debt will come from the sponsors and producers. So the absolute amount is huge, the relative amount of financing that they would be responsible for relative to their existing businesses, their existing asset ba , is also very, very large. However, it is also apparent to us that with those huge commitments made by those thirteen companies in their pro-rata share there may be and most likely be a need for additional financing beyond that as was mentioned earlier by Mr. MacKay, a portion of that financing may be accomplished on the basis of the project itself, provided that financing is put in towards the end of the project, and the issue which we will be addressing shortly, the State may have a role to play in closing that financing gap over and above the significant commitments made by the sponsors and the producers.

We feel that support for a financing plan by the State of Alaska at this early point can only serve to enhance the probability that the transportation system will go forward and become a reality. That that form of support not only the dollar amount, but the statement of an expression of interest in seeing that this becomes a reality, is very important to the pipeline's success at this point in time.

And lastly, we believe that Alaska can support the financing plan with very minimal risk on the part of the State, and my associate Ken Seplow will discuss our preliminary thoughts along these lines and we will be obviously available to answer any of your questions as they come up. I would again stress that what we are trying to do today is verbalize what we will be putting in writing shortly at the direction of

the task force so in the next three or four weeks trying to give you a sense of where we are today in our analysis of what options the State has available to it.

Seplow: In the course of our analysis we've looked at a number of different alternative modes of investment or involvement in the pipeline financing plan on the part of the State of Alaska, most particularly, we have looked at the possibility of Alaska providing equity to the project, and our tentative view although I would stress that I see little on the horizon to change that view, would be that equity would be an inappropriate vehicle for Alaska in terms of this project, and there are quite a number of reasons for that. When you assess the appropriateness of investment, one of the first things you have to do is evaluate the capacity of the investor to bear risk, then you have to evaluate risk and see whether or not the investor can stand the loss that would result if things don't work out. Now in these terms I think we have to acknowledge that an equity investment is the riskiest part of this project and given the posture of Alaska as a State, and given our understanding of Alaska's financial resources and future prospects, Alaska, we think, would find it very difficult to bear that risk, and it would seem to us to be inappropriate to ask Alaska to bear that risk. Another element of inappropriateness about equity investment is that equity investment has to be made up front. Indeed the financing plan that has been advanced that may even be required by the terms of the Presidential Decision requires that the anticipated equity funds be invested in the project before any debt funds are invested which would require of an equity investor that it have available the cash to put in almost immediately, and as we review the financial position of the State and its projections for the next several years and the other calls upon its resources, that various members of the State Government have in mind and have perhaps even tentatively committed the State to, there just doesn't seem to be any cash up front for that equity investment. Now even if Alaska were to make an equity investment there's some serious question as to whether this would be the most appropriate investment in terms of the kind of return that Alaska could get. After all, investment in this pipeline conditioning plant is investment in a regulated enterprise and as such the upside return potential is distinctly limited indeed over a fine-eyed (?) period of time as that investment is amortized the actual cash flow return declines. In addition to that we carefully analyzed the projected return to the system owners and we find that a major portion of the return appears in the tax benefits that accrue to those owners, and those are tax benefits which Alaska as a public body cannot share, and indeed the presence of Alaska as an equity owner were the owner of a segment of the transportation system might in fact fritter away tax benefits, several tax benefits that would otherwise be usefully employed in attracting capital. In addition, of course, we heard Mr. MacKay say today that apparently the sponsors have lined up the equity, they don't need Alaskan equity, there are concerns that have been expressed not only by Northwest, but people within State Government about the appropriateness of Alaska being both the regulator and taxer of this system, and an equity investor in the system.

All in all, it just does not seem that there are sufficient real benefits associated with an equity investment and there seem to be quite a number of drawbacks to an equity investment so we have as I said tentatively but probably approaching conclusively, we see a conclusion that we should recommend against any consideration of equity investment. I might just make one footnote on this equity investment concept, a number of people have suggested that Alaska should own a segment of the system, for example, the conditioning plant, I've heard it frequently said here that Alaska should own the conditioning plant and I think that presupposes that ownership of a segment such as the conditioning plant would vest Alaska with some degree of control over that facility. I think that that's a misleading notion because I do not think any of the other parties to this project, either the producers or the sponsors, the pipeline companies, or the banks that will be supplying funds are prepared to see an independent party operate a segment of the plant in a way that is not consistent with the overall purpose of that plant, of the entire system, and indeed that was the theory underlining the whole waiver provision with respect to including the conditioning plant in the transportation system. The need to join the conditioning plant to the pipeline in order to create a satisfactory financing base, so I think the illusion that there would be some opportunity to exercise control through ownership is one that probably should be dispelled.

Now, another consideration that we gave to another mode of financing on the part of Alaska that we considered was the possibility of Alaska providing debt. And this is certainly a more acceptable approach in our view than equity, but still comes up with a number of drawbacks. The principal drawback is that again debt financing has to be funded early on, and some of the same considerations that I mentioned before about funding equity and the problems of finding room within the State's current and future budgets as projected particularly in light of spending limitations which may be enacted by the voters really make it very difficult to find a place where the State is going to come up with the cash to fund debt in the next several years when the debt would have to be funded in order to provide a source of funds for construction.

Another consideration about debt financing is as has been alluded to earlier. If the completion risk can be covered by credit-worthy parties, the world capital markets appear to be adequate to meet the debt financing needs of the project, so in terms of making a contribution to the project coming together and getting done, Alaska's participation while it might be useful is not a terribly critical thing in order to increase that probability of ANGTS becoming a reality. What really seems to be needed and which also seems to fit in best with Alaska's capability and risk-bearing position, would be to call upon Alaska to provide some of that contingent commitment supporting completion of the pipeline, supporting the debt funds that would be contributed towards construction. As has previously been discussed when the banks last summer looked at the project they said that they would need credit-worthy parties backing up the debt that they supply with respect to construction and completion issue, we've already heard that the producers and sponsors are making determinations, to some

extent have made determinations as to the amount of credit they can provide to support that completion problem, there are some questions as to whether or not the producers and sponsors collectively will be able to pool enough credit to meet the bank's requirements, there is a risk that the project may fall short in that respect there is a possibility of a so-called gap in terms of that credit support and we think that the most critical need on the part of the project in terms of this financing plan is to fill that gap and Alaska seems to be particularly well suited to do that if Alaska is to do anything. Although the completion risk is the most risky part of the project perhaps there are ways in which to minimize that completion risk with respect to any particular party backstopping that risk, and a principal way of doing that is to what we call backload the responsibility, and essentially what that means is, that any funds that any commitments Alaska would make which would be designed to support the infusion of debt into the project, would be invested at a later stage of construction, toward the back end of construction at a point in time when it would be far easier than it is now to assess the problems that may have arisen that may arise in the course of construction and to assess what funds are necessary to achieve completion, and if the debt funds that Alaska backstops, investment of those funds are conditioned upon, assurances that those funds plus other funds that are available, are sufficient to provide completion, that risk is very significantly reduced. Now one of the other important benefits of this approach is that this approach requires a minimal up front cash commitment by Alaska, and consequently it provides a minimal interference with the State's other investment and expenditure plans. To give you an example of how this might work, if Alaska backed up, provided a back up to debt funds which were only required to be invested after the equity in the project had been expended, and after a debt funds backed up by the producers and sponsors, the funds that Alaska would be backing up would probably not be called upon until fiscal year 1985, at a point in time when a projected three-quarters of the cost of construction would have been expended, and as I indicated before, Alaska-backed funds would then be invested only after receipt of assurances that sufficient funds were provided by the system owners to complete and that the gas would be marketable. Of course once completion has been accomplished the State would have no further liability on its credit backup. Now we've been assured that if Alaska entertained this type of commitment that Alaska would receive a market rate type of compensation for its commitment and that presumably that compensation could either be paid in a lump sum or over a period of time, it presumably could be negotiated either in a fixed amount or in a variable amount depending on the inflation rate in the future, or could it could be pegged to the equity earnings of the sponsors in the project. There are a great number of alternatives as to how that could be designed.

Fundamentally, as we have indicated, we think that this approach does the most for getting the project done, and yet places a minimal risk on Alaska and a minimal call on its current funds. There has been some discussion and Commissioner Katz testified earlier about the approach that Alaska ought to take at this time. We recognize that the details of the sponsors' financial plan will not be available until probably the spring of this year which is really out of sync with the consideration

that this legislative session can address that plan. Now the State could wait until the sponsors develop all of the details of the plan but in view of the fact that the legislature will be going out of session the State will not really be in a very effective position to deal with that after it goes out of session. Consequently we would suggest that if something positive is to be done that there be some sort of expression of support in general for the concept that we are recommending enacted by the legislature or otherwise developed by the legislature and the executive body of the State, and this would perhaps be in a form of a resolution expressing general support for this concept attaching conditions to Alaska's participation and such conditions might include satisfactory assessment by Alaska of all of the risks including the cost and completion risks, and marketability as well as the satisfactory structuring of the commitment to minimize the specific risk on Alaska's part, number two, assurance that an adequate compensation of the, provided for Alaska for undertaking these risks, number three, that there be adequate assurances associated with the problem of Alaska's interest in the wellhead value of the gas. Another condition might be an adequate resolution from the State's point of view of the issue of compensation to the State for the socioeconomic costs of the project, certainly a condition would be that all of the other elements of the financing plan including commitments from other responsible sources be provided. Now this approach would, as my colleague has said, by expressing the support of the State for the project and giving some tangible evidence of that support and being prepared, evidencing the State's willingness to sit down and negotiate details of this participation, would certainly enhance the chances of the project coming together and the other financial participants coming forward with the necessary commitments. It certainly would indicate that this project has a very welcome environment here in the State of Alaska and it certainly indicates that things would be, would be further evidence that things are falling in place in terms of the consummation of this plan.

Moreover, by taking this step I think Alaska would really be gaining a seat at the negotiating table concerning the financing. I mean Alaska's involved in that but in a sense as a partial outsider, and by stepping up and saying we're interested in participating Alaska would gain an opportunity to sit down with all of the other serious participants in the financing plan and have a say about all of the elements in the financing plan, including those elements associated with marketability, whatever arrangements are made with respect to levelizing and that would be an important means by which Alaska could protect its interest in the wellhead value.

Now I want to conlude by saying that the remarks we've made are still tentative, and we've got to sit down and digest some additional information that we've gathered during our visit to Juneau, we've got to put this all on paper for consideration of the task force and public, we are still a little general in some of the concepts that we're talking about, specifically some of the legal elements associated with the implementation of this suggestion have yet to be worked out in detail, but work is continuing and this is a very high order of priority personally and on the part of our firm, and we hope to be back up

here in a couple weeks with our written report and to again submit ourselves to detailed questioning concerning our recommendations.

Q. Thank you. Any questions to same?

Q. Are you ... (garble) and I do have some questions. Let me see if I can ... see if I can just summarize this in layman's terms, what you're saying to us is that the examined equity debt, some kind of contingency ... and that you feel that equity is inappropriate because of the three or four reasons that you set aside, the debt might be more appropriate that it's really not critical in terms of the entire financing, if that's all we're going to get involved with because of the posture of the worldwide price of ... for the financing, and so you're asking us, I say you're asking us, the idea is for us to consider contingency commitments, something that's at the tail end, we probably wouldn't know what that would be until halfway, ... or later, I'm assuming when you say halfways (?) five year, still using 1986 schedule that Northwest has at this time, so could and probably would be later than 1985, fiscal year 1985, is that correct?

Seplow: That's correct.

Q. So we really wouldn't know the dollar amounts that we might be asked to consider until that time. Is that correct?

Seplow: No, perhaps I didn't make that clear. We would be talking about Alaska either currently or within the next year, making a firm commitment to support a credit debt up to a maximum dollar amount, what you wouldn't know about until 1985, 1986, or conceivably 1987, is whether that commitment will be called upon,

Q.: Or even if it's enough?

Seplow: Well, if it isn't enough and if at the time that commitment, the debt funds which that commitment is backing up, is apparently not enough then the debt funds would not have to be invested, Alaska would be taken off the hook until the sponsors and producers could come up with additional funds that would assure that all those funds together would be sufficient to complete.

Cotton: That's about the same question I had on the completion guarantee--I wanted to know if there was a specific amount that we have to lay out here and by tying it to whether or not the producers or others could come up with whatever the additional required funds were, that would significantly lower the risk to the State as far as its participation, is that correct?

Seplow: That's right.

Cotton: That's sort of the idea, and let me make sure I understood the marching orders that ... (gap)

Seplow (?): .... we think was referred to earlier includes more than those assets,

Cotton: So they would have to make the same assumptions about whichever portion of the project that you were talking about, wouldn't you?

Seplow: That's true.

Seplow: And that the Canadian sections is another part of it, and the prebill, that the part we have focused on because of our assignment for the State is the Alaskan segment not all the rest of it.

Cotton: Okay, I didn't mean to get lost, go ahead.

Seplow: There's one other point that I'd like to make, and that is, if the State were to adopt the approach that we've suggested, which is that it provide a contingent credit backup, the State would not be putting any funds out so the State would not be earning any funds, a interest rate, because the funds are not invested. What the State would be getting is some sort of compensation for having assumed that risk, and that would obviously be largely a function of the assessment of that risk, and it might be impacted by what overall interest rates were.

Cotton: ... once they finally made the call on these funds if in fact they made a call on them, .. point of guaranteeing that they'll be there is because they need them, right?

Seplow: Right.

Cotton: If they didn't need them that would become part of the debt?

Seplow: It's not there in case they need them, it's there to, those funds are going to be put up by perhaps the same group buying some insurance companies that are going to put up the funds that are guaranteed by the credits of the producers and the pipeline companies, it's just going to have a different credit, it's going to have the State's credit instead of Northwest Energy's credit. If the pipeline for some reason is not completed then the providers of the debt capital are not paid their interest and principal repayments on time, then they will call their obligations, they will come to the State of Alaska and say you owe us X dollars depending on the strategy ... (garble) will go to the producers and the pipeline companies ... saying call that they have because they guaranteed the securities so there will be no monies put out by the State of Alaska other than those funds which they might segregate to support their guarantee if it ever got called, whether you have to put up dollar for dollar that amount, make some provision that you put up some monies in overtime that's invested such that gets the guarantees called in some future point in time there'll be enough there to pay the guarantee off. There are all kinds of mechanisms which we haven't worked out yet to support the guarantee.

Cotton: Okay, I was wondering, let me get back out here and let somebody else have some questions. I want to make sure you understand that our, I understand what your position is, you're working for the State and we're paying you to give us advice so I'm

not trying to interrogate you I'm trying to understand, there's a lot of new things here that I'm not that familiar with. I assume you don't also represent any of the pipeline companies or the gas producers, is that correct?

Seplow: Right. Unfortunately that's correct.

(Much laughter).

Cotton: Thank you.

Q.: Following that one step further because I think Representative Cotton opened up something that I was interested in, you mentioned that the State's guarantee comes on last, the question is, if you get a call of obligations, is that call also satisfied last, in other words, if you're talking so many billion dollars that are supported by the pipeline companies as well as the producers and you finally get down to the State's call, is that negotiated to be or recommended to be also the last call in that order as well?

Seplow: It probably would work out so that the call occurs simultaneously, there's probably an outside date by which the project is supposed to be completed, and that date may very well tie in with the FERC set date for when the prebill period commences, and there would be institutions who would be looking to be repaid the debt that they have provided to the project, by that date if it hasn't been completed by that date, and some of those institutions would be looking to Alaska and some of them would be looking to Exxon, some of them to Sohio, some of them to Arco, and some to the pipeline companies, but that would all happen probably simultaneously, now if the project is not completed and we're talking about worst case, by that outside date then each of the credit supported parties would have to step up and pay off that debt, and they would in effect be purchasing that debt and so Alaska would step into the shoes of some of the senior lenders who have a first lien on the project, and they would be Alaska's interest but at that point in time would be senior in claim to the pipeline, to the equity that the sponsors and producing companies have put in, and at that point in time, Alaska and the other holders of the debt would have to worry about what it would take to get the pipeline completed and where those sponsors going to come from, and in the first place, they probably look to the producers and sponsors who have all that equity invested to see if they could provide additional funds. They would have a very powerful motivation for doing that but they wouldn't be legally obliged to do that, now if for some reason they felt that the project had receded in economic viability to the point that they didn't want to put any more money in underneath the first lienholders, then the holders of that debt would have to worry about attracting senior debt, that giving up some of their senior position in order to get enough funds in to complete the project, and you have to go through a rather horrendous litany of events whereby Alaska ended up not only losing some of its money or it really have to go to extremes to come up with a conjured up case whereby Alaska lost all of its money, but Alaska would fill the gap that in terms of taking that kind of credit risk which apparently the banks at this juncture are not prepared to

take except for very small portion of the funds, and I think that the view is that Alaska would probably take, that the banks may take the last few dollars' risk if Alaska would take the dollars before the banks. So basically, before Alaska does anything the project's sponsors and the producers are on the line for three-fourths of the total, again before the State of Alaska loses anything the sponsors and producers have already lost all of their equity share. They've lost the equity share and they've come in for a debt share representing let's say half of the cost of the project, which may equally on one with Alaska. The benefit of that approach is that it maximizes private sector participation prior to public sector participation, it is intended to be a private project as Mr MacKay mentioned, that's the way they want to approach it and this plan fits very nicely with their desire to keep it a private project.

Q.: Representative Cotton.

Cotton: The question I get asked is ... why don't we build an all Alaskan gasline. I know that every bit of advice we've ever got said that it is not feasible and you've made a statement similar to that that suggests that the existing Northwest design is the most and probably the only viable system for this decade. Is that included in a report some place, I usually say that too, but I want to be able to prove it I guess.

Seplow: Can I, maybe we shouldn't be as categorical as we've been making that statement but frankly, the concept of an all Alaskan line is very appealing to me six year ago but a lot of water is gone over the dam in six years. We've had at least three significant problems arisen that may get virtually impossible to conceive of an All Alaskan pipeline in this decade. First of all you've had El Paso which was the sponsor of that project withdraw from the LNG business with terrible financial bruises, they have written off something like half of the corporate equity as a result of losses that they have sustained in the LNG business, and maybe those losses have nothing to do with the kind of risk that they would be exposed to in Alaska, but basically they are out of business in LNG now. Second of all, you've had an inability to get a regasification facility site on the West Coast of United States, they've been working on that for probably ten years, or a good part of ten years and it still hasn't come to fruition, and thirdly, one of the great attractions of the El Paso LNG project was that you could use Title XI US Government shift financing bonds to back up a lot of the credit, well that program has been diminished as a result of the Reagon Administration fiscal constraints and as a result of some poor experiences that the Maritime Administration has had with LNG in other projects, they are not about to give any of their now very scarce guarantee authority to an LNG project of this order of magnitude, so I just cannot see how a project can come to ... even apart from a long lead time that any such project has.

Cotton: So in addition to other things that Ronald Reagon, is because of ... has not been able to consider that all Alaska line.

Seplow: That's only one of three causes.

Cotton: Thank you.

Q.: Are we going to turn this into a partisan discussion?

Cotton: Sure.

Q. Any further questions.

Q.: Mr. Chairman, just so that I understand about three hours ago I think, I think it was pointed out that you would be back in March?

Seplow: Yes, when we complete our report we will submit it in writing and then at the convenience of the committee and legislature, we'll be back up to discuss it.

Q.: Thank you.

Fahrenkamp: I would just like to thank the gentlemen, I know it was a little time-consuming on your part ... to give an interim report before you felt you were ready to go with that, and we really appreciate your taking the time to do it.

Q. Just one last shot I don't know if it was asked while I had to break for another meeting, to what extent have you gone into deregulation of natural gas as far as it affects marketability?

Seplow: We certainly looked at the question and I want to emphasize that we are not the ultimate authority on marketability. We have read the Jensen Associates report that Northwest submitted and we've looked at a number of other sources on that issue and we think it has an impact on marketability. However you slice it you can make a good case for marketability, but you can't make an absolutely conclusive case for marketability without some mechanism which backend loads the gas, the transportation and or wellhead cost. It would appear to us that that is a very critical element in terms of assuring the marketability of the gas and one of the advantages of the approach that we've taken as I indicated earlier is that by Alaska stepping up to, as a negotiator about the financing plan, Alaska would have an opportunity to have a first hand impact on those arrangements.

Q.: That will be part of your final report?

Seplow: Yes.

Q.: Just as you went by that you said backend loads, the transportation and the wellhead cost, of course when I think of the wellhead costs I think of the wellhead costs of the State's share as well, and backend loading there and what the effect might be I just, I'd like to hear more about that and get the,

Seplow: Well, I mean, certainly the wellhead could possibly be backend loaded and that might not be a disadvantageous thing for Alaska and for the producers provided that they were compensated for the ... of both in terms of the time value of the money they are foregoing and in

terms of additional risk that they are incurring by waiting longer for the payment.

Q.: Thank you.

END.

Alaska State Legislature

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Senate

Committee on Resources

Joint Meeting
of
The Senate Resources Committee and the House Oil and Gas Committee
The Governor's Task Force on Fas Pipeline Financing
Wednesday, March 31, 1982
Juneau, Alaska
Senate Finance Committee Room

Senate Resources Committee	House Oil and Gas Committee
Senator Bettye Fahrenkamp, Chairman	Representative Rick Halford, Chairman
Senator Fisher	Representative Bvlsma
Senator Mulcahy	Representative Cotten
Senator Bradley	Representative Montgomery
Senator Eliason	Representative Randolph
Senator Gilman	Representative Rogers
Senator Sturgulewski	Representative Vaska

Agenda

1. Commissioner John Katz - Department of Natural Resources, Chairman of the Governor's Task Force - Overview of Task Force Charge and review of its activities to date.

2. Kenneth Seplow and Otto Lowe - Kidder, Peabody and Company - Presentation of their final report to the Governor's Task Force on Gas Pipeline Financing - Summation of findings and recommendations.

3. Joseph Donohue, Deputy Commissioner of Taxation, Department of Revenue - Overview of state's legal options to financial participation, review of revenue forecasts.

4. Milt Barker - Legislation Finance Division - Review of net economic benefit package.

Pd 2/15/82
10:05 am

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ALASKA OPERATIONS
WESTERN DIVISION

R.H. WEAVER
OPERATIONS MANAGER

February 10, 1982

Senator Bettye M. Fahrenkamp
Pouch V
Juneau, Alaska 99811

Dear Senator Fahrenkamp:

We have received with interest your notice of hearing on an interim status report on the Northwest Alaska pipeline project. As we understand the scope of your hearing, the Task Force will be continuing its investigation into the possibility of state involvement in the pipeline project and updating information regarding the status of the financing package for the project.

We have also learned from your staff of your interest in producer response to general questions relating to:

1.) where the producers stand on financing of the line
2.) the long-range plans for the line
3.) the effect of lack of gas production on the Prudhoe Bay reservoir

The first two of these questions do not directly pertain to Exxon's involvement in the ANGTS project as a natural gas producer and we feel that any responses we would have to the Task Force would not be productive to the objectives of the hearing. To briefly respond to your questions as we understood them from your staff:

1.) Q. Where the producers stand with regards to financing of the line...

R. As you know, the waivers package signed in December by President Reagan allows the Prudhoe Bay producers to have up to a 30% equity interest in the pipeline and, correspondingly, finance that much of the project. Producer financial participation is defined by law in the waiver package and by the limits committed to as a matter of public record by the individual producers. We have no additional information to provide on the subject.

2.) Q. The long range plans for the line...

R. Other than to observe that the question is highly speculative, Exxon, as one of the Prudhoe Bay producers, would not be in a position to respond to questions regarding the operations of the pipeline. We would suggest the gas transmission companies as the appropriate source for a response.

3.) Q. The effect of lack of gas production on the Prudhoe Bay reservoir...

R. We have indicated in the past that the Prudhoe Bay field can be managed so as to produce the reserves with or without gas sales. It has been shown that given the capability for gas injection and waterflood, the same level of ultimate oil recovery can be achieved with appropriate modifications to the reservoir management plan. Further information regarding the question of ultimate recovery of reserves of the Prudhoe Bay field was addressed in some detail by ARCo, Sohio and Exxon at the public hearings May 7 and 8, 1980 held by the Alaska Oil and Gas Conservation Commission for "Conservation File Number 165, Prudhoe Oil Pool."

Please consider our Juneau representative, Mr. Robert J. Walker, at your disposal to further discuss the previous points or to coordinate responses to any other questions you or your staff may develop.

Very truly yours,

R. H. Weaver
Operations Manager

RHW/DSE/006/es

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March 17, 1982

Mary Halloran
Special Assistant to
the Commissioner
Department of Natural Resources
State of Alaska
Pouch M, State Capitol
Juneau, Alaska 99811

Dear Mary:

You have asked for an analysis of whether a proposed investment by the State of Alaska in the financing of the Alaska natural gas pipeline might give rise to a "conflict of interest" that would interfere with Alaska's regulatory responsiblities with respect to the ANGTS.

To analyze this issue, we start by examining what legally is a conflict of interest, the State's interests and regulatory responsibilities in the ANGTS, and the relationship between possible forms of State participation in financing the ANGTS and the possibility of conflicting interests.

Legally, what is a conflict of interest varies with the situation. First, there are often statutory restrictions on employees of State regulatory agencies in decisionmaking capacities having a personal interest which conflicts with their regulatory duties. Second, where one is acting as a fiduciary or trustee with respect to the management of particular property, he may be barred from being subject to conflicting loyalties in the discharge of his duties. Third, the term conflict of interest has sometimes been used -- but not in the legal sense, in our judgment -- to describe a situations where a party making a public policy decision on behalf of the State must resolve competing interests in discharging his responsibilities. Thus, there can be situations which are loosely referred to as "conflicts of interest" but which do not fall afoul of any legal prohibition. It is well to bear these differences

in mind. We believe only the first and third uses of the term could be applied to an Alaskan investment.

Turning to the State's interests with respect to the ANGTS, any serious study of this issue must recognize that the State of Alaska has numerous financial interests in the ANGTS regardless of whether it directly participates in the financing of the ANGTS. The State will receive revenues from severance taxes for gas shipped through the ANGTS and from the use or sale of the State's one-eighth royalty share of North Slope gas production. In addition, the State will receive revenues from property taxes and corporate taxes, and, to a lesser extent, from the various state permits needed for the ANGTS (including the conditioning plant) although these revenues may not cover increased administrative and other costs that the ANGTS may impose on the State. Thus, the State can be said to have a pecuniary stake in the success of the ANGTS regardless of any interest arising from its direct participation in financing. In a certain sense, and in particular circumstances, this pecuniary interest may be opposed to each of the interests described below.

Second, the State, under its police power, regulates production from the Prudhoe Bay field. Historically, the State has exercised its police power to prevent waste of its mineral resources and has premised approval of operating plans on the condition that the plans prevent waste and maximize recovery of hydrocarbons. Conceivably, the State's responsibility to protect the field against waste could conflict with a governmental need for revenue from the field in a particular year. Since the State receives a large percent of its operating budget from petroleum revenues, the conflict could be viewed as particularly acute if the Prudhoe Bay field had to be shut down for conservation reasons. But it is important to note that the State conservation responsibilities are not exercised by a State official subject to other responsibilities but by an independent oil and gas conservation commission whose decisions must be based on the record and are subject to judicial review.

Third, the State must decide whether to issue to the ANGTS a right-of-way lease across State lands for the pipeline, as well as easements across State lands for ancillary construction activities. The Commissioner of Natural Resources, who will issue these leases, could theoretically be faced with a conflict between the desire to

protect the State's investment (assuming it makes one) and the need to protect the State's lands and receive fair value for the lease thereof.

Fourth, the State controls to a certain extent access to its highways by construction vehicles. The State's desire to secure and maintain decent highways in Alaska potentially conflicts with the needs of Northwest to construct the project on an expeditious schedule. The State has been pursuing an arrangement with Northwest to obtain compensation in advance for anticipated damage to the highways. Again, a conflict could be said to arise between the State's pocketbook interest in obtaining revenues from the ANGTS and its need to protect the highways.

Fifth, several State statutes relating to environmental protection and health and safety are applicable to any large operation in Alaska, including the ANGTS. Various subordinate State officials are in charge of enforcing these statutes, which may improve restrictions that conflict with the State's monetary interest in the ANGTS.

Sixth, the State has a distinct interest in the Alaskan economy and, in particular, in the direct and indirect economic effects of the ANGTS. A State government interested in economic growth would encourage pipeline activities even at the expense of additional government services and short term disruption. Conversely, a State government not interested in rapid expansion of the Alaskan economy would discourage or be indifferent to the ANGTS. Thus, depending on the philosophy of the State government, the construction of the ANGTS could be said to "conflict" with the philosophy and plans for growth of the State government.

Thus, without regard to an investment by Alaska in financing the pipeline, the State has numerous and competing interests in the ANGTS as well as in any other major energy project in Alaska. Generally, the State is presumed to act impartially and in good faith for the public welfare in resolving these competing interests. The question thus becomes whether Alaska's interest in assisting the financing of the pipeline would create a conflict, or sharpen an existing "conflict" to the extent that the impartiality of individual State officials charged with the resolution of competing interests would be undermined.

Despite the State's competing interests in encouraging and in regulating certain aspects of the ANGTS, the State does not suffer from a "conflict of interest" in a strict legal sense. The conflict of interest doctrine applies when a State official "who stands to gain or lose personally by a decision either way [participates] in the exercise of judicial functions." Davis, Administrative Law Treatise § 19.6. For example, a conflict of interest would arise if an individual official involved in the decision-making process with respect to environmental regulation of the ANGTS had a pecuniary ownership interest in the ANGTS. When a State, acting as a sovereign, balances competing interests (such as protecting the environment and increasing State revenues) to determine what is best for the general welfare, it is not disqualified because of a "conflict of interest."

In other words, prohibitions against conflicts of interest apply only to individuals who have a personal stake in a decision made in their official capacity, not to a State which has conflicting purposes nor to responsible State officials who are charged with balancing competing State interests in carrying out their official functions.

Alaska's statute on conflicts of interest illustrates this focus on the individual decisionmaker; it speaks only to the need "to discourage public officials from acting upon a private or business interest in the performance of a public duty". Alaska Stat. § 39.50.010. "No public official may use his official position or office for the primary purpose of obtaining financial gain for himself, or his spouse, child, mother, or father, or business with which he is associated or owns stock." Alaska Stat. § 39.50.090. A specific conflict of interest provision applicable to the Alaska Royalty Oil and Gas Development Advisory Board also addresses only the conflicting interests of individual members. "No member of the board may act upon a matter in which his relationship with any person creates a conflict of interest." Alaska Stat. § 38.06.035. These restrictions are the only relevant ones we have found in the Alaska statutes that apply to "conflicts of interest."

An argument could be made that the State appears to have a "personal stake" in the construction and operation of the ANGTS arising from its financial investment in the project. Sometimes legal distinctions have been drawn between proprietary and governmental acts by State government, the former being subject to greater scrutiny. We do

not think, however, that this argument withstands analysis. The argument would be that, in investing in the ANGTS, Alaska is acting as a private person, not in its sovereign capacity, and that the State's "public" interests would thus conflict with its "private" interests. However, this argument rests on the fallacious assumption that a State can act as a private person to further its private interests. By definition, the State, if acting properly, always acts for the general welfare. The real issue is whether the State's use of taxpayer monies to assist the financing of the ANGTS is a proper investment for the general welfare. If so, then the State is furthering a valid interest such as raising revenues, by investing in the ANGTS, and that interest is no more a "private" interest than the State's interest in collecting taxes from the ANGTS.

Conflicts between two governmental interests, such as the interest in protecting the environment, health and safety, and the interest in safeguarding the investment of public monies, often arise. For example, a government may finance certain low-income housing developments; at the same time, it may set safety and building code standards. Similarly, local governments often own utilities. These conflicts are commonly resolved by a balancing of the various interests. It would be helpful for the State to document the public interest in an investment before proceeding with one so as to avoid charges of conflict, but such documentation would probably occur naturally as part of the process of securing legislative approval.

There are analogies in legal precedent that could be applied here but it is not clear whether they should be applied. One consideration is whether the State wants to appear free from a charge of conflict of interest no matter how that term is defined or only to be free from legal problems. For example, although the State may perform a wide variety of functions to further competing interests without creating a "conflict of interest," the State's decisionmaking process, on regulatory matters which are required to be decided upon a record, should insure impartiality. Under the separation of functions doctrine, "an individual who tries to win for one side should not participate in the judging." Davis, supra at § 18.1. This could be done by isolating those responsible for making the decision from competing responsibilities. Thus, the particular individuals who decide the rate of production for the field should not also be responsible for the State's financial investment in the pipeline. Because of the independent

status of the Alaska Oil and Gas Conservation Commission, this appears to be only a hypothetical concern.

Other precautions could be developed if the State wants to be super-sensitive to charges of conflict, even if not soundly based. Precautions could be taken to isolate those (below the Governor) responsible for deciding police power enforcement questions from those managing the investment. This would avoid any appearance of an improper conflict of interest. For example, employees in a regulatory capacity should not have off-the-record contacts regarding the performance of their duties with, or be supervised by, employees having responsibility for the investment. Of course, if this type of procedure is followed, the decisionmaker in the regulatory area need not ignore the State's interests in protecting its investment; he must simply ensure that input from the investment section is placed on-the-record. This would be a relatively extreme precaution and would come at the cost of straightjacketing your administrative process, perhaps unnecessarily.

Of course, if the Governor were finally called upon to resolve these conflicting interests, he would not be subject to the separation of functions rule. His responsibility would be to consider all competing interests, balance them against each other, and reach the decision that he thought would best further the general welfare. Other cabinet level officers may be in a similar position.

We do not believe any form of State participation in financing is per se objectionable. Each form, as illustrated below, can give rise to "conflict" issues but legally objectionable conflicts do not appear likely to occur and other "conflicts" can be addressed as suggested above if the State deems it necessary. If the State provides a loan guaranty for completion of construction which limits its financial interest to the construction period, the State would not have any investment interest after construction which might conflict with any governmental relationship it might subsequently have with respect to the ANGTS, such as later taxing or conservation regulations. But this form of participation does not prevent all "conflict" problems the. Many of the State's governmental relationships with the ANGTS will be strongest during construction since the State decisions that must be made during this period (environmental protection requirements, rights-of-way leases, etc.) could affect the schedule, cost and financing of the ANGTS. And, these decisions, in turn, might affect whether a guaranty would be called upon.

Nor does choosing debt instead of equity for the State's investment automatically avoid problems. The indentures under which debt is issued typically carry restrictions on how the enterprise is managed and, ultimately, the right to take over the enterprise if it is managed badly. Equity, at least initially, provides for a direct vote in the management of the enterprise but whether that vote is meaningful depends upon the voting power held and the corporate charter or partnership agreement. Thus, it is not clear that a debt rather than an equity investment is to be preferred as per se avoiding conflict questions.

In sum, when and if the State decides to invest, the State may wish to consider whether to establish special arrangements for insulating regulatory officials who will decide issues relating to the ANGTS. On the other hand, we believe that the State's participation in the financing of the ANGTS in any of the ways that have been seriously put forward would not give rise to a conflict of interest that would legally bar an investment in the ANGTS. Assuming that the investment meets the standards for expenditure of public funds, it should also satisfy the public purpose doctrine for conflict of interest questions.

Sincerely yours,

Robert H. Loeffler

RHL:c

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March 2, 1982

Mary Halloran
Special Assistant to
the Commissioner
Department of Natural Resources
State of Alaska
Pouch M, State Capitol
Juneau, Alaska 99811

Dear Mary:

This is in response to your request for our opinion as to the likelihood of the Alaska Natural Gas Transportation System ("ANGTS") meeting its announced in-service date of the winter heating season of 1986-1987 in view of the current status of proceedings related to the ANGTS at the FERC.

We begin on the premise that predictions of this kind are fraught with uncertainty because they depend on the number of events beyond the control of the FERC, most notably the submission of a financing plan after some form of financing agreement has been reached among the parties and with the financial community. Even when events are within FERC's control, it almost never meets its announced schedule and this is especially true when matters are controversial, complex, or important. From a historical perspective, one must remember that the President's Decision contemplated that the ANGTS would be in service this past fall. Thus, announcements of firm schedules must be viewed with a certain degree of skepticism.

The ground rules are clear. ANGTS must receive a final certificate of public convenience and necessity from FERC. It is a basic premise of large project financing that all major permits and authorizations must be secured before financing is completed and, in most cases, arranged. Further, judicial review of the permits must be completed. Finally, no substantial construction can begin before financing is obtained.

The degree of detail in a financing plan necessary to secure a certificate from the Commission is less than clear. The Commission could approve a "conceptual" financing plan for ANGTS and give Northwest a definite time period after issuance of the final certificate to make a compliance filing indicating that financing had been arranged in accordance with the terms of the conceptual plan. This could be accomplished by attaching a condition subsequent to the certificate of public convenience and necessity requiring Northwest to file its actual financing arrangements with the Commission six months after issuance of the final certificate of public convenience and necessity. Further, the lending institutions would want to be sure that judicial review will not upset the Commission's action issuing a certificate, so one must allow a period of a maximum of 150 days from the issuance of the final certificate before judicial review would be concluded (i.e., 60 days to bring the action; 90 days for the court to hear and decide the case).

With these rules in mind, let me turn to what is before the Commission. The proceedings currently pending before the FERC include:

1. The final certification proceeding for the Alaska segment.

2. Production related costs rulemaking for Prudhoe Bay gas.

3. The Alaska segment cost estimate proceeding.

4. Rate base proceedings for Alaska segment and Northern Border pre-1980 costs.

5. The Northwest Canandian Gas Sales Company certificate and import applications in lieu of Northest Alaskan Pipeline Company.

Others to be instituted include:

6. Rulemaking on shipper tracking of ANGTS transportation charges.

7. In the more distant future, final certification of the non-prebuilt sections of Northern Border and Western Leg, and certification of shippers of Alaska gas.

It is noteworthy that the cost estimate proceeding (CCE) (number 3 above) has been going on for nearly 2 years and should be nearing its end. Nonetheless, just on the few issues that Alaska is pursuing in the CCE proceeding, the record will not close and briefs will not be filed before the beginning of April. Beyond that, when the Alaska Gas Office and Federal Inspector's Office finish their report on the cost estimate, by Commission order there will be a comment period of 45 days (30 days for comments and 15 days for reply comments) before the Commissioners take up the subject. Thus, unless the Commission drastically changes the procedure in the critical cost estimate proceeding, the Commission is unlikely to finish its work just on this one matter before late June or July at the earliest. As you know, the cost estimate is the foundation for the application of the incentive rate of return formula. The cost estimate also could affect the financing efforts if the FERC reduces the estimate excessively or is critical of the engineering behind the estimate.

There are other major issues to be addressed by the FERC. According to testimony presented by the Chairman of the FERC to the Senate Energy Committee during its hearings on the Senate waiver package, such issues include:

1. The financing plan, including tariff issues.

2. Cost of service of ANGTS and its net national economic benefit.

3. Marketability of the gas.

4. Cost allocation between gas and liquids for the conditioning plant.

5. Any remaining design questions.

6. Any issues deferred from the Alaska segment cost estimate proceeding.

What the Chairman did not list was another critical proceeding: the setting of the target completion date for purposes of the billing commencement provisions of the waiver package. This date will be the trigger by which the billing commencement provision kicks in and could generate much controversy from consumer groups and consumer-minded state utility commissions. Also, antitrust review by the Department of Justice on producer equity ownership must

occur and FERC then must approve the form of producer equity participation.

Based on my experience with the FERC, both generally and with respect to the processing of the ANGTS applications, it is highly unlikely that work could be completed on these issues before early fall. In addition, the FERC trial staff has indicated that it will take an aggressive posture with respect to these issues and that it will seek to raise other complicated issues, most notably those raised by the Report of the House Committee on Energy and Commerce. If so, the proceedings could take considerably longer.

The one bright spot is that the Commission has designated Commissioner Sousa to preside over a technical conference on March 16 where the timing of the project and the status of the financing and other issues will be addressed. A more definitive indication of the timing of the project either from the sponsors or from the Commission may emerge at this conference.

How does this FERC schedule relate to the announced completion date of the ANGTS? At technical conferences at the FERC, representatives of Northwest Alaska said that to permit completion of the project by the winter heating season of 1986-87, major commitments with respect to procurement for the conditioning plant had to be made by May of this year. The May date was arrived at by backing off from the time when those items must be on the North Slope the lead time for procurement and the number of barge seasons necessary to ship those items by barge to Prudhoe Bay. May is slightly more than two months away and as of this date, certain substantial elements of the Northwest application are missing. Most notably these include the financing plan, pro forma cost of service, net national economic benefits study, marketability study, and gas contracts.

Given the work that must be completed at the FERC, if the timing considerations relating to May commitments that have been announced by Northwest cannot be altered, it is my judgment that it is nearly impossible for the project to adhere to an in-service date of 1986-1987. Thus, a 1987-88 schedule becomes the earliest likely schedule. The March conference may give us further guidance.

If you have any questions with respect to this matter, please let me know.

Sincerely yours,

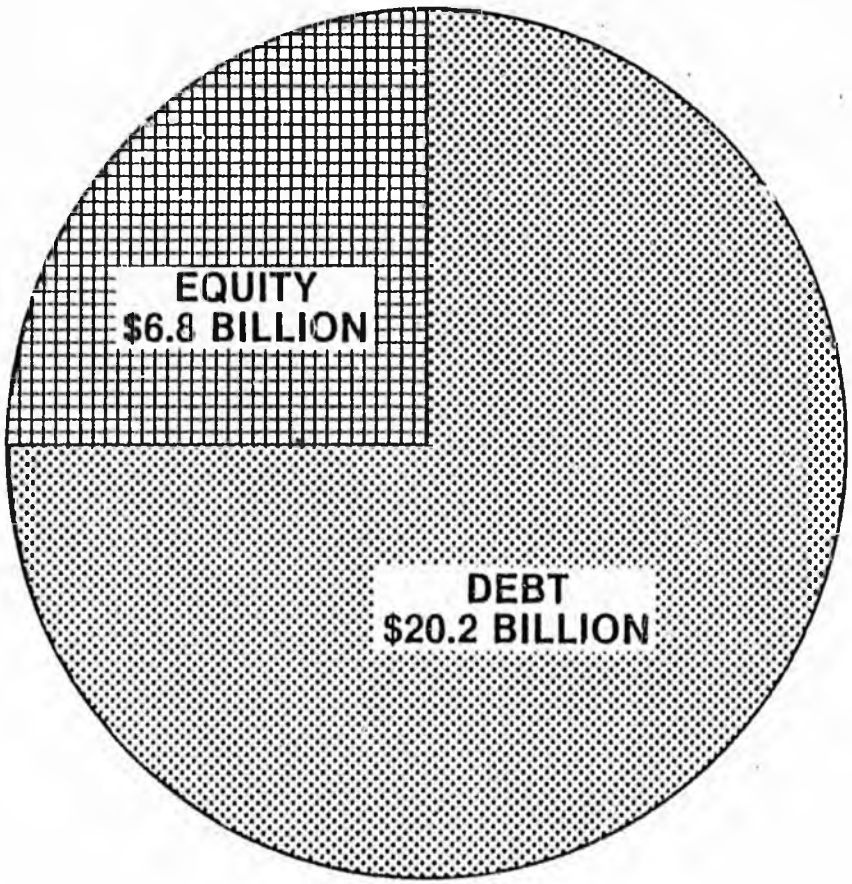
Robert H. Loeffler

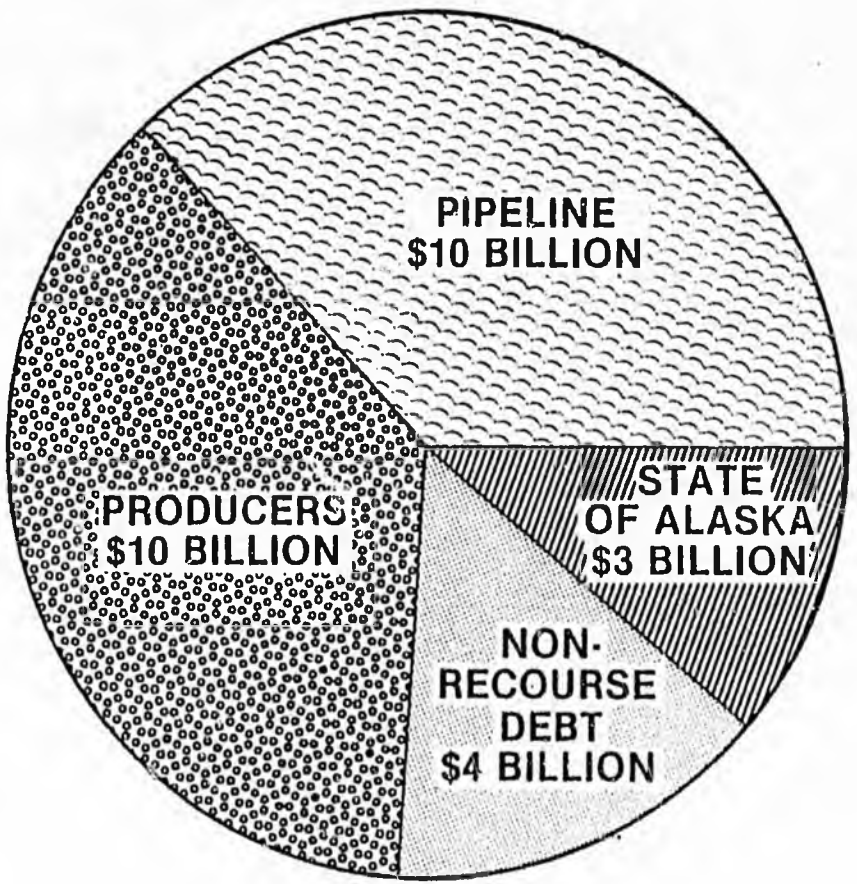
RHL:c

cc: Kenneth F. Seplow
Kidder, Peabody & Co.

ALASKAN SEGMENT
ALASKA NATURAL GAS TRANSPORTATION SYSTEM
SOURCES OF FINANCING

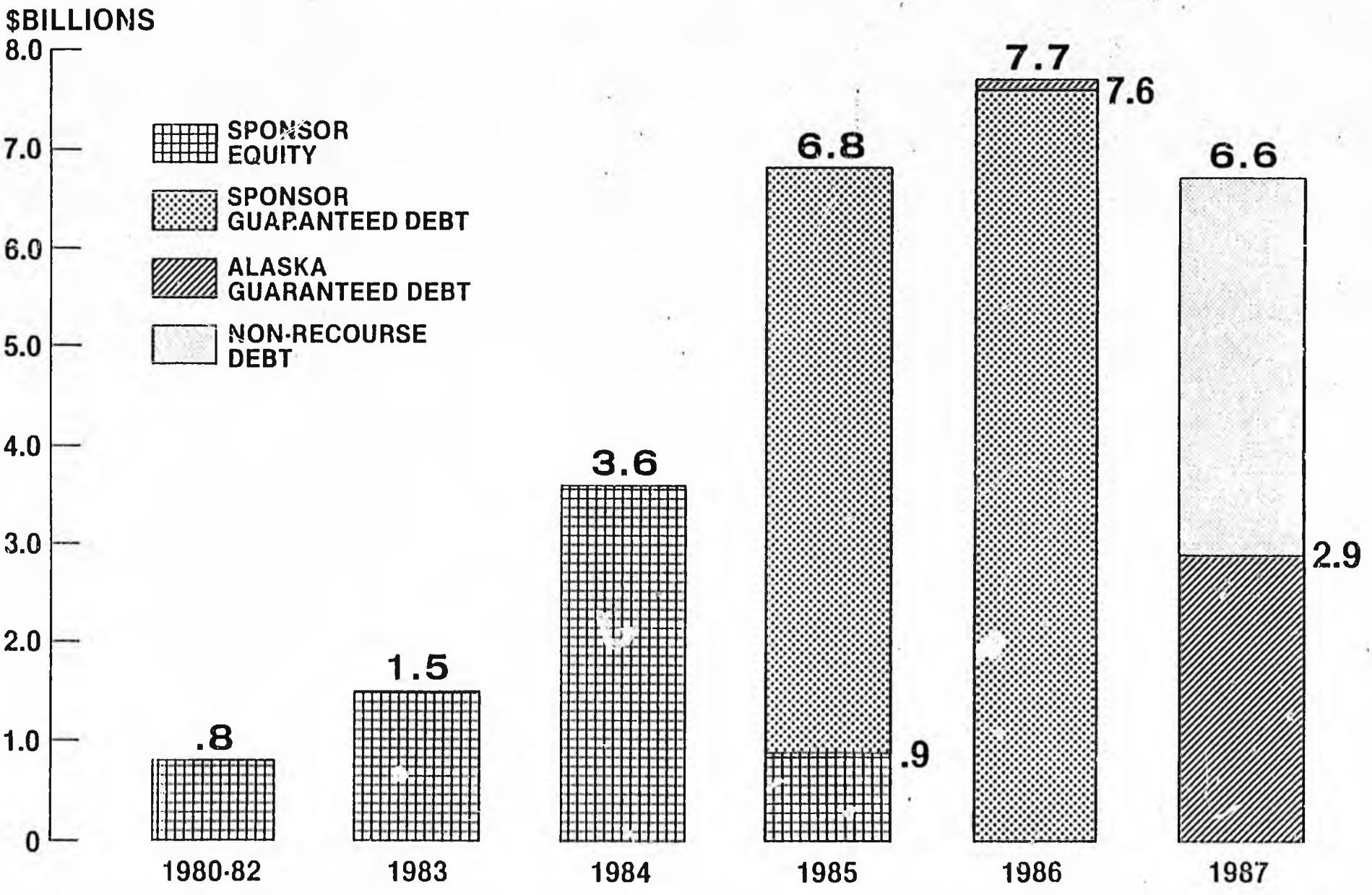
TOTAL ESTIMATED COST OF $27 BILLION



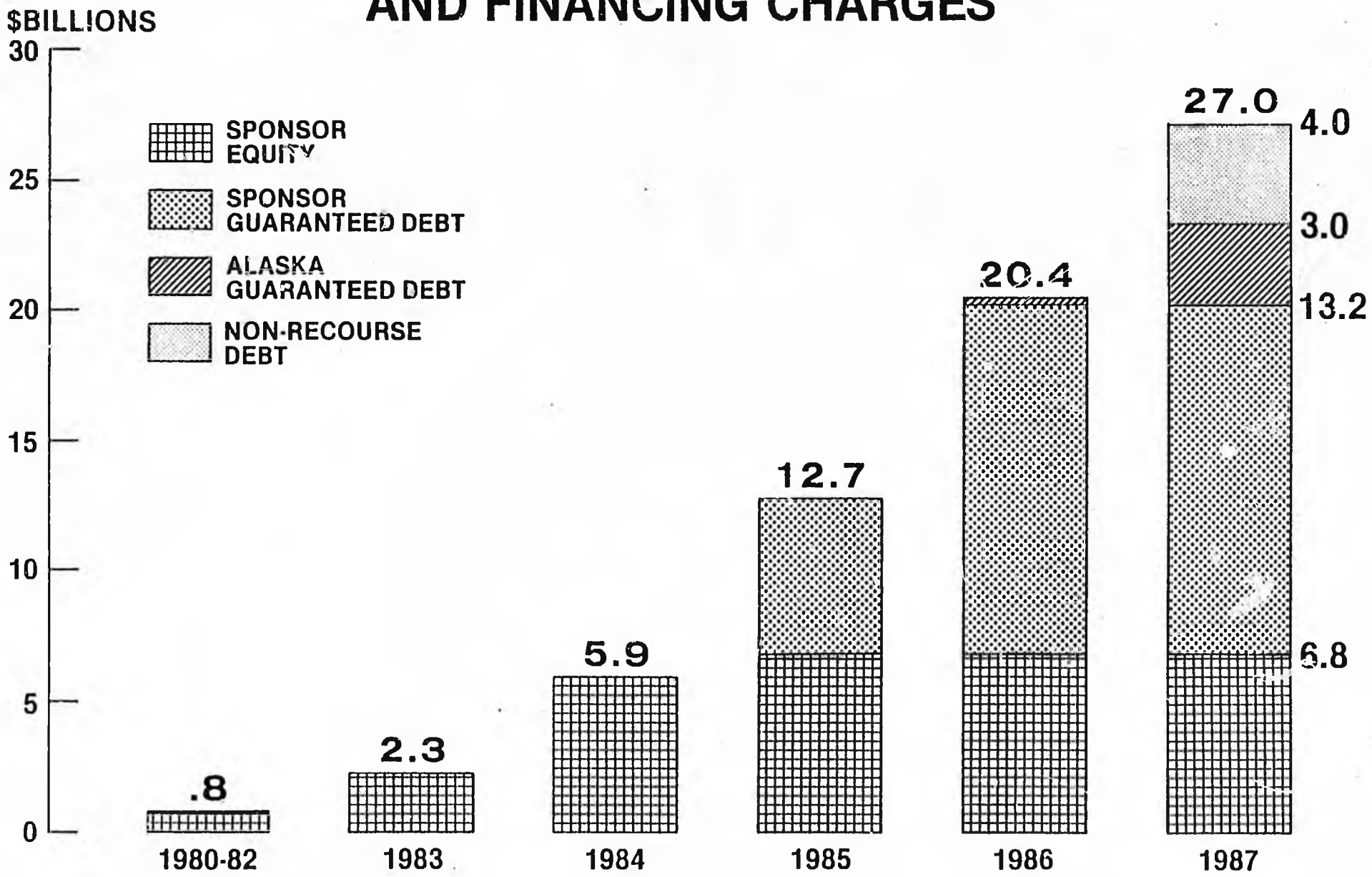


NOTE: THE PIPELINES AND PRODUCERS EACH CONTRIBUTE 3.4 BILLION OF EQUITY AND 6.6 BILLION OF DEBT.

ALASKAN SEGMENT
ALASKA NATURAL GAS TRANSPORTATION SYSTEM
FUNDING OF CONSTRUCTION AND FINANCING COSTS



ALASKAN SEGMENT
ALASKA NATURAL GAS TRANSPORTATION SYSTEM
CUMULATIVE FUNDING OF CONSTRUCTION AND FINANCING CHARGES



EFFECT OF DELAYED GAS SALES ON PRUDHOE BAY PERFORMANCE AND DEVELOPMENT

INTRODUCTION

In the development planning for the Prudhoe Bay Field, it was recognized that gas production for sales would be an integral part of the total energy resource management. Prior to the Field going on production in June, 1977, gas sales of 2.0 BSCFPD were anticipated starting as early as 1982. Now it appears that startup of gas sales will be about 1987. All of the studies done by the major Owners indicate that the optimum operating plan for Prudhoe Bay includes early gas sales and that the reservoir can be managed such that gas offtake will have little or no effect on ultimate oil recovery. Considering that the Prudhoe Bay Unit gas and associated liquids are approximately equivalent to one third of the total recoverable hydrocarbon reserves of the Sadlerochit Reservoir and that simultaneous oil and gas sales can allow lower economic production limits at abandonment, the Prudhoe Bay Unit Owners strongly support early gas sales.

Reservoir Performance/Plans Impact

The performance of the Prudhoe Bay Sadlerochit reservoir will be dominated by the expansion of the large gas cap. Gas production will be an integral and normal part of the oil operation. Currently, gas production associated with oil withdrawals has risen to about 1.8 BSCFPD. By the time of gas sales, production of gas will have increased to the point that the entire production volume to support 2.0 BSCFPD of sales could be produced from oil wells.

The associated gas produced in excess of the fuel and other consumption requirements will be reinjected into the gas cap by a Central Compression Plant until the start of gas sales. With the startup of gas sales, the field gas handling capacity will increase by approximately 500 MMSCFPD. This provides an increase in oil production of up to 100 MBOPD by allowing production of high gas-oil ratio wells which otherwise would be shut-in. Although this benefit erodes with further increases in gas production, expansion of gas handling capacity can be expected to provide incremental oil production rate for some time.

A delay in the commencement of gas sales is not expected to have a significant effect on the ultimate oil recovery from Prudhoe Bay. In previous public testimony, Unit Working Interest Owners have stated that delaying gas sales until substantially all oil has been recovered could increase the oil recovery by approximately 1% of the original oil in place. Less drastic delays (of 1 to 3 years) will have an even smaller effect. Moreover, any gas sales timing impacts on oil recovery are tempered by the initiation of a major waterflood in 1984, to which the Unit Owners are already committed. Although the primary benefits of the water injection program will be to improve sweep efficiency in portions of the oil zone which experience poor recovery under natural depletion, reservoir pressure maintenance from waterflood will certainly mitigate hydrocarbon withdrawal effects.

A short delay in gas sales is expected to have no significant impact on the ultimate gas recovery, except for the amount of gas that is used as fuel for reinjection purposes. At abandonment, the field will be at some as yet unknown final pressure, which will determine the ultimate recovery of gas. This pressure will be a function of economic factors existing at that time and not of the specific dates of gas sales start-up, which would have occurred many years earlier.

Operating and Facility Impacts

Significant delays in gas sales can have a major impact on field facility and operational requirements. In the absence of gas sales in the 1987 time frame, additional facilities would be necessary to provide the equivalent field gas handling capacity. These additional facilities, e.g. compressors, injection wells and lines, would result in extra capital, operating, and maintenance costs of about $150 - 200 MM for the producers. More importantly, however, continued injection of gas back into the gas cap consumes large quantities of energy. Each year gas sales are delayed would require approximately 30 BSCF of fuel gas or the energy equivalent of over 5 million barrels of oil.

Conclusion

The objective of the Prudhoe Bay Field Owners is to achieve the maximum economic recovery of oil, gas and gas liquids. Studies have shown that with sound reservoir management which includes a very large commitment to waterflood in 1984, all of the interests in the Field can be best served by simultaneous production of oil and gas. This can be achieved by early gas production through facilities installed for oil production, and in the long term by prolonging of oil production while gas production operations continue to be viable. These combined benefits can be maximized by the early realization of gas sales. Delays in gas sales carry penalties associated with the fuel consumed in reinjecting gas which cannot be sold, and with the potential burden to provide extra gas handling facilities to sustain oil production at economically optimum rates. Such delays, therefore, frustrate the orderly development of the total energy resource that Prudhoe represents and thwart the resolve to strive for energy independence.

GASLINE FINANCING MATERIAL - CONTENTS

1. Report by Kidder, Peabody & Co. to State of Alaska, March 1982
2. Net Economic Benefits Report; Legislative Finance, March 1982
3. Financing Mechanisms Available to State of Alaska (legal analysis), Dept. of Revenue, February 1982
4. Conflict of interest legal analysis, Robert Loeffler, March 1982
5. ANGTS project schedule analysis, Robert Loeffler, March 1982
6. Assessment of potential for construction cost overruns, Office of State Pipeline Coordinator, March 1982
7. Critique of marketability study of Alaska natural gas, Budget and Management, February 1982
8. March revenue forecasts, Dept. of Revenue, March 1982

NET ECONOMIC BENEFIT

TO ALASKA

OF ALASKA NATURAL GAS TRANSPORTATION SYSTEM

MARCH, 1982

Prepared by
Milt Barker
Legislative Finance Division

With Review by
Department of Revenue
Department of Natural Resources
and
Budget and Management, Office of the Governor

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(continued)

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Net Economic Benefit to Alaska of the Alaska Natural Gas Transportation System

SUMMARY

Construction and operation of the Alaska Natural Gas Transportation System (ANGTS) could easily provide in excess of $5 billion in present value of economic benefits to Alaska in 1982 dollars if the effects of construction on price levels in Alaska can be held to a minimum. If the inflationary impact of construction is not held in check, its adverse consequences could result in a real net cost to the state from ANGTS.

The assumptions behind these conclusions are very conservative. Limited time and resources were available for testing alternate assumptions. Since the most important question to be answered by this sort of analysis is whether on the whole economic benefits are positive or negative, conservatism supplies a "failsafe" test. If benefits are positive, or nearly so, in the worst imaginable case, the project can be endorsed with confidence.

Arguably this is so for ANGTS. The high inflationary impact case assumed price level escalation slightly in excess of the Trans-Alaska Pipeline System (TAPS) experience and persistence of these elevated price levels for eleven years. Such an impact would result in a net cost to the state of almost $1 billion.

The extraordinary inflation associated with ANGTS is assumed to occur during and immediately following the construction period. The persistence of elevated price levels, resulting from inflation during that period, is assumed in order to provide a worst case test. A large backlog of state capital projects and continued high levels of state spending of petroleum revenues might result in such persistence.

Since one can never know what the future will hold, some find it helpful to think in terms of probabilities. If one feels that there is no more than an 80% chance of the high inflationary impact as specified here, occurring, then one can expect the project to result in positive benefits.

In light of the possibility of negative benefits to Alaska from ANGTS, it may be felt that prudence requires a much more extensive testing, and judgment as to likelihood, of alternate assumptions before the state endorses the project or makes any commitments for financial support.

Specific findings or propositions from the economic benefit analysis are:

1) benefits of ANGTS are:

   a) an increase in the present value of Sadlerochit oil production if gas is also produced;

   b) higher bonus, royalty, or net profit share bids on lease sales;

c) availability of property and sales taxes in excess of local government expenditures for ANGTS impact;

d) an increase in income and wealth of Alaska residents resulting from wage gains and increased corporate profits;

e) availability of gas revenues in excess of state expenditures for gasline impact if there is a minimal ANGTS inflationary impact;

f) high inflation can create significant windfalls to property owners who are leveraged;

2) costs of ANGTS are:

a) the increase in state expenditures required to maintain existing levels of service can exceed gas revenues, with a high inflation impact from ANGTS;

b) the greatest cost of a high inflation impact can be the reduction in value received for the expenditure of state revenue in excess of the amounts required for existing levels of service;

c) even low inflation will reduce the real value of permanent fund dividends more than gas royalties increase them for as long as the elevated price levels persist; population increases will further dilute their value to individuals;

d) high inflation can significantly erode the value of government assets and personal savings;

e) the inflationary impact of the gasline could be compounded by high levels of state spending at the same time;

3) the state may have some capability to assist in ANGTS financing:

a) there might be general funds available for investment between FY 84 and FY 88; however, this possibility is becoming increasingly clouded by current oil market developments;

b) the state's gas royalties from Sadlerochit would have a present value of roughly $1.5 billion in 1982 dollars at a minimum;

4) the amounts of gas revenues estimated in the analysis are conservative in that:

a) gas liquids may provide additional revenues;

b) gas marketability may not require reduced wellheads at the outset, as projected, if tariffs are levelized and/or rolled-in pricing is possible;

c) oil prices and the controlled gas price of the Prudhoe Bay Unit may increase faster than projected;

d) decontrol of Prudhoe Bay Unit gas might mean greater revenues in the long run;

5) the amounts of gas revenues are optimistic in that delivered gas prices are assumed to have parity with oil prices in Btu terms;

6) levelization of ANGTS tariffs probably would increase state benefits if Prudhoe Bay prices remain controlled; however, levelization might decrease state benefits if Prudhoe Bay prices are decontrolled;

7) the state may have an interest in further analyzing marketability measures that may be undertaken by FERC to determine their effect on state revenues and possibly to try to influence such decisions.

NET ECONOMIC BENEFIT TO ALASKA OF THE ALASKA NATURAL GAS TRANSPORTATION SYSTEM

I. CONCEPT AND METHODOLOGY

Definitions

The net economic benefit to Alaska of the Alaska Natural Gas Transportation System (ANGTS) is composed of the change in revenues and expenditures of state and local governments, the change in personal income of Alaskan residents, and the effects of inflation in Alaska in excess of national rates of inflation which are attributable to construction and operation of the gasline. The revenue, expenditure, and personal income items include the multiplier effects of ANGTS construction.

The present value of the net economic benefits is the value today of the benefits and costs to be received or incurred in future years. The present value is less than the actual benefits when they occur because the present value, invested at some positive rate of return, would compound to the amount of the future benefit. Thus, one would be indifferent between the present value received today and the actual value received in the future.

Purpose

This economic benefit study seeks to provide guidance to the state in answering the question "to what extent should the state support the ANGTS project, if at all?". State support could be either in the form of subsidies, investment, or non-financial support such as permitting and regulatory measures.

To answer this question, the benefits from state support of ANGTS should be compared to the benefits of all other uses of state funds. This is not practical. As a surrogate, the next best use of state funds is assumed to provide a real rate of return of 3% per annum. If the present value of ANGTS benefits -- calculated by using 3% as the state's opportunity cost -- is positive, then support of ANGTS, if necessary, would be a better use of state funds than other alternatives. If the present value is negative, the state should not support ANGTS.

More specifically, consider the following possible outcomes:

a) if state support is critical to the project's completion, the state in theory should be willing to subsidize ANGTS up to the amount of positive benefits in present value terms that the state would receive. Subsidy means both direct payments or grants or tax relief as well as acceptance of a return on investment less than 3% per annum.

b) if state support is not crucial and the present value of benefits is positive, there should obviously be no subsidies and any investment by the state would have to earn at least 3% in real terms. In this situation, an investment by the state in the ANGTS can be evaluated on its own terms, with due consideration for alternative investment opportunities, alternative expenditure priorities, diversification, risk and regulatory conflicts.

c) if the present value of benefits is negative, there should obviously be no subsidies and the earnings on any investment by the state would have to exceed the normal earnings or opportunity cost of 3% on state investments by the amount of the present value.

It should be noted that there are at least two ways in which use of this economic benefit analysis may be a defective guide to decision-making:

a) there is no consideration of environmental or socioeconomic effects such as congestion, crime, etc.

b) the benefits are calculated by comparing the ANGTS project to not producing Prudhoe gas at all; the correct approach would be to compare it to the next best alternative, be it methanol, use as in-state boiler fuel or whatever; in other words, the gas is assigned a zero opportunity cost when it may really have some value even if ANGTS is not built.

Method of Analysis

The benefits of ANGTS are estimated for four different gasline construction cases representing combinations of low and high inflation scenarios and weak and strong state expenditures. Comparison of these cases reveals how sensitive the estimated benefits are to assumptions about inflation and spending. The benefits for the four cases are calculated as the difference from base cases of weak and strong state expenditures in which there is no gasline.

The low inflation scenario assumes gasline construction results in cumulative inflation totaling 5.55% in excess of the base case (no gasline). See Table IX. This level of inflationary impact is assumed to be consistent with construction of ANGTS at the IROR (incentive rate of return) centerpoint cost. This cost is the estimated cost of construction as filed with the Federal Energy Regulatory Commission (FERC) by Northwest Alaskan Pipeline Company plus 30% as an allowance for anticipated but unidentified cost overruns. These overruns are assumed to result generally from unforeseen technological and managerial problems.

The high inflation scenario assumes gasline construction results in 18.06% inflation in excess of the base case. This high estimate of inflation is assumed to be consistent with a construction cost 10% in excess of the centerpoint cost (or roughly 40% over filed costs). The annual rates of excess inflation for this scenario are shown in Table X.

The weak state expenditure scenario is modeled on the assumption that per capita expenditures remain at FY 82 levels of service in real dollars.

In the case of capital expenditures, this means the capital budget shrinks to an amount equal to one-twentieth of the value of capital stock (cumulative, depreciated capital expenditures as shown in Table XVIII) escalated by changes in population. This is all that is required to maintain the existing level of capital stock if one assumes it depreciates to zero over a twenty year period. 1/

Highway repair costs resulting from gasline construction have been estimated separately in Table XV and are added to the capital budget amount required for non-highway capital stock during the years of construction. 2/

1/ As a practical matter, because capital facilities often come in large chunks, expenditures may be more than they would be if they could be provided in truly per capita increments. However, governments could also choose to tolerate congestion in use of existing facilities rather than create excess capacity.

2/ In 1978 Northwest agreed in principle to reimburse the state for highway repair costs and socioeconomic impact costs. However, they are indicating that they will make reimbursement only for those costs that are allowed in the rate base by FERC. The state pipeline coordinator's office has estimated $19.7 million (in FY 80 $) in state costs during FY 81-88 for migrants and their families directly employed on the gasline and $96.6 million additional costs for migrants and families induced to come to Alaska by ANGTS construction but not directly employed on the line. These costs are based on FY 80 levels of service. See the attached letter of July 21, 1980 from Commissioner Ward of the Alaska Department of Transportation and Public Facilities to Northwest regarding highways costs. The socioeconomic cost estimates are based on "The Relationship Between the Alaska Natural Gas Pipeline and State and Local Government Expenditures", Goldsmith and Mogford, Institute of Social and Economic Research, December 1980 and state agency estimates. Northwest is (continued-next page)

The FY 82 level of service budgets take into account the facts that not all state operating and capital expenditures are related to population changes and that the composition of migrant families is different from the average Alaskan family, thus not requiring the same pattern of state expenditures.

The strong state expenditure scenario projects state expenditures at the level that would be permitted if the proposed constitutional spending limit, Legislative Resolve 1, SLA 1981, is ratified by the voters.

In this scenario, the impact of the gasline on expenditures is greater first of all because the base for capital budgets under the spending limit is not one-twentieth of the value of the state's capital stock, but a much larger amount based on FY 82 capital expenditures. Secondly, spending limits will go up in full proportion to population increases, not just by the fraction of the budget that is population sensitive or responsive to migrant demographics. Compare Tables XIII and XIV.

The FY 82 level of service budgets are a fairer measure of what costs can be assigned to gasline impact in that costs rise only to the extent required to maintain the given level of service. However, the spending limit budgets are a more realistic estimate of what the actual level of services will be.

Components of Economic Benefit

The specific elements of economic benefits for which quantitative estimates are shown in Tables I and II need some explanation.

For state government, net economic benefit is composed of:

1.) the change in the FY 98 general fund balance
   a.) this figure measures the effect of both the increased state expenditures resulting from gasline impact and the increased state revenues from the gasline for the entire period FY 83 through FY 98;

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2 continued/ reimbursing the state for pipeline surveillance and monitoring which is budgeted at $51.3 million for FY 81-88. Any of these costs allowed in the rate base could result in an adverse though miniscule effect on wellhead values and a definite though miniscule increase in pipeline income taxes.

b.) it also measures the erosion of the real dollar value of the general fund balance due to gasline caused inflation; the FY 98 figure is in 1982 $ which in the gasline scenarios means it was reduced by an additional 5.55% or 18.06% compared to the no gasline base case; these percentages are the additional inflation generated by gasline construction;

2.) the change in the FY 98 permanent fund balance

a.) this figure accounts for the increase in the balance as a result of 25% of Prudhoe Bay unit gas royalties being deposited in the fund between FY 83 and FY 98;

b.) the figure also measures the erosion of fund value caused by additional gasline-related inflation as described above;

c.) the extent to which this figure is positive or negative would indicate whether the total value of permanent fund dividends in real dollars increased or decreased without considering the dilution that would come from population growth caused by the pipeline; if 50% of earnings at 12% interest are paid as dividends, the effect on annual dividends would be 6% of the effect on the fund balance;

3.) FY 99-2016 gas revenues

a.) beyond FY 98, additional state expenditures and inflation resulting from the gasline are ignored;

4.) FY 86-2016 reduced oil recovery

a.) counted as an economic cost in this analysis is a total reduction in Sadlerochit oil recovery of 140 million barrels as a result of gas production. This is based on van Poollen's March 1980 reservoir simulation of oil production with waterflooding, with and without gas production;

5.) gas revenues from other fields

a.) ANGTS would make possible gas revenue from reservoirs other than Sadlerochit depending on the economics of production; a September 25, 1980 Department of Natural Resources study, "Proven and Probable Oil and Gas Reserves, North Slope, Alaska" estimated 6.4 trillion cubic feet (TCF) in gas reserves on North Slope acreage leased at that time in addition to Sadlerochit; 3/

3/ Point Thomson and Flaxman Island areas - 4.5 TCF; Lisburne reservoir, Sag Delta and Duck Island areas - 1.9 TCF.

b.) ANGTS would also increase gas revenues by increasing bonus, royalty, or net profit share bids on acreage yet to be leased;

6.) erosion of other state assets

a.) other state assets such as the retirement funds and the rainy day fund will be worth less as a result of gasline-caused inflation;

b.) asset values are based on 1980 fund levels; roughly speaking, changes from this level would have to come from the general fund; thus, the analysis of gasline impact on the general fund avoids the necessity of considering future balances of these other assets.

Local government benefits are the excess of revenues over expenditure based on 1979 levels of service per capita. Additional revenues are from property taxes and sales taxes.

The figures for local government include only the gasline construction years. This is the period of major impact. 4/ It is assumed that both revenues and expenditures of local governments keep pace with inflation. Thus, the lingering effects of gasline inflation after the construction period make no difference in economic benefits in real dollars.

Private sector benefits include increases in corporate profits of Alaska-owned businesses and increases in wages of existing Alaska residents. For estimating the wage gains, it is assumed that only gasline jobs result in wage gains in real dollars and that existing residents receive 60% of the gasline jobs.

4/ Fairbanks will continue to receive some significant additional property taxes on the gasline after construction. The North Slope Borough will receive additional property taxes only during construction when construction workers are present. This is because the borough is already at its per capita property tax limits.

II. RESULTS AND SENSITIVITY

Results

For the state as a whole, and for all three sectors -- state government, local government, and the private sector -- the gasline provides significant benefits if it does not cause much additional inflation in the state.

If there is significant inflation, then state government potentially is a loser even though local government and the private sector remain immune from any adverse effects. The effect on the state as a whole could be negative.

The negative effects of gasline inflation on state government come about because 95% of the state's general fund revenues, namely petroleum revenues and interest income, would not increase with inflation that occurs only in Alaska. These revenues are determined by world and national markets and price levels. Thus, gasline inflation eats away at the real value of the state's revenues as state expenditures rise with inflation while petroleum revenues and interest remain unaffected. The other way of looking at this is that each dollar of state revenue purchases less real goods and services.

Interpretation of Effects on State Government

A. GENERAL FUND

In the low inflation scenarios, it is clear that the main result of ANGTS would be to increase state revenues well in excess of any need for increased state expenditures or ill effects of inflation.

In the high inflation scenarios, clearly the effects of inflation predominate and require some further interpretation.

In comparing FY 98 fund balances, the gasline scenarios' fund balances in real dollars are reduced by the additional inflation caused by the gasline. This implies that the effects of gasline-caused inflation on price levels persists indefinitely or that the fund balances are spent before the effects of gasline-caused inflation have receded. The first implication is very unlikely -- the second, rather likely.

The general fund balances shown in Tables I and II combine two adverse effects of inflation which can be segregated.

The first effect of inflation would be to increase the state expenditures required to maintain a given level of service.

This effect can be most clearly discerned by examining the FY 82 level of service budgets. 5/ If one compares FY 98 general fund balances without adjusting the gasline scenario balances for any additional inflation caused by the gasline, one can determine that in the high inflation case the general fund balance is $628.5 million (1982 dollars) less than in the base case. This is the extent to which the increase in state expenditures required to provide the existing level of services would exceed gasline revenues. The culprit is sure to be inflation rather than population impact from ANGTS, since the change in the general fund balance is positive in the low inflation case.

The second effect of inflation, the reduction in real goods and services that would be received from expenditure of state revenues in excess of those required to maintain the FY 82 level of service, would amount to $4,635.8 million. 6/ The expenditure of the funds is not caused by gasline impact but gasline impact would reduce the value received for them. 7/

B. PERMANENT FUND

Assuming the excessively high price levels resulting from gasline inflation eventually return to normal, the effects of inflation on the permanent fund balance could be ignored. Arguably this is so, since the permanent fund balance is never supposed to be spent. In that case, the FY 98 permanent fund balances would be $290.6 million and $260.1 million higher in 1982 dollars in the low and high inflation scenarios than in the base case.

5/ As previously discussed, the spending limit budgets provide increasing levels of service, especially through capital expenditures in excess of those required to maintain existing stock.

6/ The difference between the $628.5 million decrease in the general fund in the preceding paragraph and the total decrease of $5264.3 million shown in Table II is $4,635.8 million.

7/ It should be noted that in the high inflation scenario, reliance upon the spending limit budget for evaluation of gasline benefits would be misleading. The spending limit case shows the cost (negative benefit) of ANGTS to be smaller than the FY 82 level of service case. The reason is that the most significant effect, the erosion of general fund assets by inflation, is diminished because the high rate of spending has already diminished general fund balances. The problem is that the reduction in value received for these greater expenditures is not measured.

However, as discussed previously, this item serves to indicate the change in the value of permanent fund dividends. The longer the effects of gasline inflation persist, the closer the effect on permanent fund dividends comes to the effect shown for the permanent fund balance.

C. REDUCED OIL RECOVERY

When the difference in oil recovery between the gasline cases and the base cases is present valued, the economic cost of reduced oil recovery becomes a positive benefit. This requires some explanation.

The effect occurs because there can be greater oil production until FY 98 if gas is also produced. There will be less oil produced thereafter and total recovery is less for the entire period 1986-2015. But the possibility of earning interest on revenues from greater production during the early years can offset the net loss in recovery under certain assumptions about oil prices, and does in this case.

Expected Value 8/

If one were to use FY 82 level of service budgets as the best measure of economic benefits, assign equal probabilities to high and low inflation and a 20% chance to the line never being completed once it's begun, the expected present value of the benefits of ANGTS to Alaska would be $1,455.1 million in 1982 dollars.

Taking a less rosy view and assigning a 75% chance to high inflation and a 25% chance to low inflation and a 50% chance to the line not being completed, the expected present value would be $212.6 million.

Arguably, factoring in non-completion is relevant only for investment purposes and not for calculating economic benefits which would be received if the line is completed. In that case, the two previous expected values would be $1,818.8 million and $425.3 million.

However, factoring in a zero benefit for non-completion could be conservative. Non-completion could have most of the negative effects of gasline impact expenditures and gasline inflation with none of the positive effects of gasline revenues.

8/ Expected value is the average of several values weighted according to their probability of occurence.

Sensitivity to Inflation

The net economic benefits of ANGTS and their present value can be judged by Tables I and II to be highly sensitive to inflation. The swing in economic benefits approaches $9 billion between the high and low inflation scenarios in the case of a weak state spending response. The swing occurs entirely in state government benefits. Local government and the private sector are unaffected by inflation.

The results are partly a reflection of the assumption that the relatively higher price levels induced by the gasline persist through FY 98. One might ordinarily expect the rate of inflation to subside to less than normal rates in the aftermath of construction.

The experience with construction of the Trans-Alaska Pipeline System (TAPS) is an interesting comparison in this regard. Table XI shows that indeed sub-normal inflation rates finally did begin to occur two years after TAPS became operational. Four years after completion about one-sixth of the effect of TAPS inflation on price levels had been erased.

The assumed persistence of gasline-caused relative price levels through FY 98 could occur as a result of record levels of state spending of oil revenues throughout the period. Going into FY 82, the state had a backlog of $2,541.6 million in capital projects. 9/

The change in benefits as a result of inflation also clearly depends on the level of gasline inflation.

Again, the level generated by TAPS, 15.83%, is interesting by comparison. Arguably, the fact that Alaska's economy will be significantly larger when ANGTS is constructed, and the fact that ANGTS is presumably being more carefluly planned and managed for cost control and may have a lesser percentage of its expenditures in Alaska, means that it will generate less inflation than TAPS did.

9/ $769.9 million in general fund projects and $391.7 million in bond fund projects as of June 30, 1981 according to the "Annual Financial Report" of the state for FY 81 plus FY 82 capital appropriations of $1380.0 million.

On the other hand, the 18.06% high inflation figure for ANGTS could conceivably be low if construction occurs against a backdrop of an already overheated Alaskan economy resulting from expenditure of state petroleum revenues. The attached letter of January 29, 1982 from John Bates, Deputy Commissioner, Alaska Department of Transportation and Public Facilities, re: "construction costs escalation" is of interest in this regard. His letter states that material cost and "wage increases could easily result in a construction escalation rate of 2% per month (24% per year) in 1982".

Although there is the question of how much of the construction cost inflation gets translated into consumer price inflation for much of the state budget, namely the capital budget, construction costs are very relevant.

In any event, the high inflation assumptions serve as a pessimistic case to test the sensitivity of project benefits to unanticipated levels of inflation.

The sensitivity of economic benefits from ANGTS to inflation is very suggestive as regards state expenditures and should give decision makers pause. At current levels of state expenditures, the state can be characterized as burning the candle at both ends. A substantial portion of the "principal" of the state's petroleum wealth, rather than only the interest thereof, is being spent, while the value of the remaining principal, whether in the ground or the permanent fund, is being eroded by inflation caused by the spending.

What should give one pause is the scale of the effect suggested by the gasline analysis with inflation rates paramount to what may now be occuring, as suggested by the aforementioned letter from John Bates. For state expenditures one can expect inflation's effect to be even greater than that suggested by the gasline analysis as there are unlikely to be any offsetting revenues commensurate with those from ANGTS.

This analysis suggests two important matters for consideration by budgetary decision makers -- one, slowing state expenditures, and two, timing capital expenditures to avoid the simultaneous construction of major projects such as a new capital, Susitna and ANGTS. Simultaneous construction could magnify inflation synergistically. Any positive benefits from ANGTS could easily be negated in such circumstances.

Sensitivity to State Expenditures

The benefits from ANGTS are not nearly so sensitive to state expenditures -- as long as higher expenditures can be achieved without generating inflation.

In the low inflation scenarios the pattern of spending makes little difference. This would very likely be the case in the high inflation cases as well if one measured the reduction in value received for the higher expenditures when spending up to the limit.

Further Sensitivity Analysis

This limited analysis could be expanded to consider the effects on ANGTS benefits to Alaska of various other overruns or underruns of ANGTS construction costs, oil price levels, relative parity of gas prices with oil prices, ANGTS tariff structures, treatment of conditioning costs, other gas reserves, etc. From this, the expected value of ANGTS benefits might be more meaningfully calculated.

Conservatism of Assumptions

Absent further sensitivity analysis, several things can be said about the relative conservatism of certain assumptions and the general effect on economic benefits of changes in those assumptions:

1.) gas liquids
even ignoring the possibility of petrochemical development based on gas liquids, some additional revenue could be received for gas liquids that might be put in TAPS; the assumed MMBtu to MCF ratio of 1.055 assumes some gas liquids go into ANGTS; the state will receive no revenue from gas or gas liquids consumed in the conditioning plant or for field operations;

2.) oil parity
gas delivered by ANGTS is assumed to be marketed at a price equivalent to that of oil in terms of Btu's; this may be optimistic; more likely, gas will sell at some discount from oil in Btu terms;

3.) oil prices
the price assumed for oil works out to be around $36 per barrel 10/ in 1982 which is clearly too high in light of today's oil markets; the assumed growth rate of 8% per annum for oil prices may or may not be too high in the long run; 8% is less than the assumed inflation rate for Alaska of 9% absent gasline impact; Alaskan inflation has historically been 1.5 percentage points below U. S. inflation in normal times; rates of growth in oil prices in excess of 8% could greatly increase ANGTS' benefits to Alaska;

10/ $5.13 per MMBtu for oil from Table VI in 1980 x 8% inflation to 1982 x 6 MMBtu per barrel of oil.

4.) gas prices

a.) Natural Gas Policy Act (NGPA) ceiling vs. netback price

the wellhead prices in this analysis are calculated as the lesser of a netback from the delivered sales price or the NGPA controlled price; this results in zero wellhead values for the first three or four years of production increasing over a few additional years to the NGPA ceiling price; this could be conservative for several reasons:

i.) producers might not agree to resolving the marketability problem in the early years by reducing wellhead values; the problem might be entirely or partially overcome by rolled-in pricing or levelizing the ANGTS tariff; now-lapsed gas sales contracts contained language that would have permitted reduction of wellhead values below the NGPA ceiling prices only in case of economic hardship and subject to renegotiation by all parties involved in ANGTS; if Sadlerochit gas is sold at the NGPA price from the outset or if higher prices are allowed by FERC later to recoup these amounts, the economic benefits from ANGTS would be roughly $1.6 billion greater; the present value of the benefits would be $600 million greater; 11/

ii.) if gas prices are decontrolled, losses at the wellhead to provide marketability in the early years might be overshadowed by much higher netbacks in later years if oil prices grow at rates greater than 8%; in present value terms this increase would be somewhat muted;

iii.) prices of gas from reservoirs other than the Prudhoe Bay unit would not be controlled even under NGPA;

11/ The figures quoted can be determined from the attached computer runs prepared by Chuck Logsdon of the Department of Revenue. His discounted cash flow figures were discounted at 10% to 1980; the above figures are discounts of 9% for inflation and 3% real rate of return for the present value figure, to 1982.

b.) NGPA price escalator
the U. S. inflation rate implied by this analysis (see item 3 above and Table XI) is 10.5% as measured by the CPI; the ceiling price escalator under NGPA is the GNP implicit price deflator adjusted to approximate the CPI; thus, this analysis should have escalated the NGPA ceiling by 10.5% rather than 8%;

5.) ANGTS tariffs
the gas price netback calculations assumed that ANGTS tariffs were higher in the early years and declined as the rate base was depreciated; if tariffs are instead levalized, state benefits may be greater if Prudhoe Bay prices remain controlled but relatively less are decontrolled; since tariffs are lower in early years, more total dollars over the project life will have to be paid to equity owners to give them the same rate of return; since the rate of return to be allowed is expected to be higher than the 3% (in real dollars) used to value state benefits, income taxes on ANGTS equity returns will be greater even in present value terms; however, the present value of state gas revenues at the wellhead would arguably be less by similar reasoning, at least in a decontrolled, netback price situation; the net effect could be negative since the wellhead revenue generally outweighs the income tax revenue; the state might want to develop a detailed analysis to better determine the effects on state benefits of levelized tariffs and/or reduced wellheads and possibly take a position on what means should be used to overcome marketability problems;

6.) population
the effects of population on state expenditures are conservative in two respects:

i.) the population impact of gasline and conditioning plant operations was not considered;

ii.) the population increase resulting from ANGTS was projected by the Institute of Social and Economic Research MAP model based on government spending at a level required to maintain the FY 81 level of service per capita; this analysis calculated costs based on maintenance of FY 82 level of service or some higher level resulting from spending at the spending limit; in either case provision of the same services to pipeline employees as the rest of the populace receives would result in higher state employment and total population;

7.) conditioning costs
the gas revenue figures assume that conditioning costs are passed on to consumers as part of the ANGTS tariff; even though the ANGTS waivers would make the plant part of ANGTS, there may still be some chance part or all of the conditioning costs would be borne by the producers and state through a reduced ceiling price or the allocation of costs between gas and liquids;

8.) severance taxes
the gas revenue figures are too low in that consideration was not given to the fact that severance taxes can be added on to the NGPA ceiling price; accounting for this would increase income taxes from producers.

7.) conditioning costs
the gas revenue figures assume that conditioning costs are passed on to consumers as part of the ANGTS tariff; even though the ANGTS waivers would make the plant part of ANGTS, there may still be some chance part or all of the conditioning costs would be borne by the producers and state through a reduced ceiling price or the allocation of costs between gas and liquids;

8.) severance taxes
the gas revenue figures are too low in that consideration was not given to the fact that severance taxes can be added on to the NGPA ceiling price; accounting for this would increase income taxes from producers.

III. WEALTH

Increases in real or financial wealth of Alaskans is an economic benefit that has not been estimated in the preceding analysis.

Real Wealth

As a result of ANGTS, there will likely be increased investment in plant and equipment in Alaska. This constitutes an increase in real wealth. Some portion of this will be owned by Alaskans.

The extent of investment in Alaska as a result of ANGTS is rather uncertain however because of the boom-bust nature of the development. The possible specter of excess capacity after the construction period may temper investment plans. This of course does not apply to development-type investments such as gas liquids-based petrochemicals that might accompany ANGTS.

Financial Wealth

Financial wealth is an increase in savings of individuals. The higher personal incomes of Alaskans resulting from ANGTS will undoubtedly result in some increase in their savings, which means higher incomes in the future.

To the extent the investment response to the prospect of ANGTS is limited, higher than usual profits from construction activity would accrue to existing businesses. As a result the value of these businesses increase, if only temporarily as a result of the boom-bust nature of ANGTS.

This might be perceived as an additional economic benefit because those who sell out during the high tide of gasline construction can experience a gain in financial wealth. However, if markets and information were perfect, the gain would equal the present value of the additional profits. These have already been counted as a net economic benefit to the private sector.

IV. INFLATION AND THE DISTRIBUTION OF INCOME AND WEALTH

In the economic benefit analysis, inflation was assumed to have no effect on the private sector. While this may be true as a whole, inflation may have different impacts on various groups within the private sector. These differing effects can occur with respect to both income and wealth.

Income

Some idea of the effect of inflation caused by ANGTS can be gained by looking at the TAPS experience. The following table shows that practically all employment groups had increases in real wages during TAPS construction from 1973 to 1976:

Alaskan Wage Rate Growth in the 1970s

Industry	Average Monthly Wage 1973	1976	1979	Increase (percent) 1973-76	1973-79
All Nonagricultural Employment	$1,006	$1,928	$1,741	92	73
Mining	1,617	2,705	3,370	67	108
Construction	1,635	4,041	2,910	147	78
Manufacturing	961	1,409	1,745	47	82
Transport, Communications & Public Utilities	1,141	2,023	2,264	77	98
Trade	778	1,149	1,239	48	59
Finance, Insurance & Real Estate	897	1,197	1,572	33	75
Services	751	1,499	1,272	100	69
Government	1,024	1,418	1,749	42	71
	*	*	*		
U.S. per Capita Annual Income	$4,981	$6,401	$8,706	29	75
Anchorage Consumer Price Index (Oct.)	113.8	167.6	211.4	35	71

Reprinted from "Analyzing Economic Impact in Alaska", Scott Goldsmith, Institute of Social and Economic Research, 1981.

By 1979, in the wake of TAPS construction, the wages of trade and services employees had decreased in real terms compared to pre-pipeline days.

However, the effect on individuals in trade services may not have been negative. The decline in real wages may have resulted from changes in the kinds of jobs or skill levels of employees as younger or less experienced employees moved into these jobs. It may reflect a decline in the number of hours worked.

Wealth

Possibly the most significant effect of gasline inflation on the private sector is to transfer financial wealth from lenders to borrowers.

The total value of assets held by borrowers will increase with inflation. However, debt service costs, which are generally at fixed interest rates, will remain the same. Thus, the inflationary increase on the portion of assets financed by debt will accrue as additional financial wealth to the owner upon sale.

A rough estimate of this increase in borrower's financial wealth can be made. Total assessed property values in Alaska as of Janaury 1, 1981 were $16.6 billion excluding oil and gas property. If the high inflation estimate of 18.06% is used, the increase in property values is $3 billion. As of January 1981, total Alaskan bank loans, Alaskan savings and loan institutions' loans, and Alaska Housing Finance Corporation (AHFC) mortgages were approximately $2.5 billion or 15% of assessed value. Thus, 15% of $3 billion or $450 million would be the increase in borrowers' financial wealth. This is a conservative estimate of the transfer of wealth to owners of Alaskan property (not all to whom would be Alaskans) since many bank and S & L loans are resold to outside banks or mortgage companies and are not on the books as assets of Alaskan banks or S and L's.

The effect of inflation on lenders is to see their loans and fixed-rate investments in the money or bond markets decrease in value by the amount of the gasline-caused inflation. This can be roughly estimated as follows:

Alaskan bank, S&L, and credit union deposits December, 1980	$2,794,555,000
State Appropriations to Loan Programs FY 81 and FY 82	1,560,700,000
TOTAL SAVINGS AND/OR LENDING	$4,355,255,000

Inflation of 18.06% will reduce the value of these funds saved or lent by $786 million. Again, not all of these funds are provided by Alaska residents; some are from outside corporations.

V. ALASKA'S CAPACITY FOR INVOLVEMENT IN ANGTS FINANCING

The analysis performed for determining economic benefits can also be used to answer the questions how much surplus general funds might the state have to invest in ANGTS or how much would its Sadlerochit gas royalties be worth if used to assist in financing. The increasingly dismal outlook for oil prices, at least in the short run, means that the amounts estimated in this analysis are probably too high. At least, this would be the case with general funds of which there could possibly be no surplus in the next few years.

General Funds

A budget forecasting model was used to estimate the previously discussed effects of ANGTS on state government. The model calculated general fund balances out to FY 98 for six scenarios obtained by combinations of

1) no gasline, gasline with low inflation, gasline with high inflation;

2) FY 82 level of service budgets, budgets at the spending limit.

The model was also run an additional six times for each of the cases with the assumption that all funds in excess of the above budget levels were spent on capital projects. 12 /

In all cases, the amounts available for capital projects were in excess of the currently anticipated capital budgets for each year from FY 84 to FY 88 by almost one billion dollars or more. For FY 83 all available funds are budgeted. (Compare Table XVIII to the computer runs.)

In total, the amounts available for capital during the period FY 83-98 are over $25 billion in FY 83 dollars in the worst case. The total capital projects for the period, including the best available estimates for Susitna and the capital move, are only $19 billion in as-spent dollars. Of course, capital budgets have not been formulated beyond the Governor's six-year plan as yet.

12/ The amounts so spent on capital projects are substantially less than the cumulative general fund balances in the first six runs due to the loss of interest earnings. Involvement in gasline financing would presumably earn interest, somewhat augmenting the amounts available.

Royalties

A Division of Petroleum Revenue computer model was used to forecast gasline revenues to FY 2016. Three cases were projected based on:

1) Sadlerochit gas prices at the Natural Gas Policy ACT (NGPA) ceiling;

2) netback gas prices based on the two ANGTS construction costs scenarios described earlier;

The present value in 1982 $ of the royalties calculated in these three scenarios is:

1) $2,174.6 million at the NGPA ceiling;

2) $1,594.3 million in the low inflation-centerpoint construction cost (30% overrun) case;

3) $1,474.0 million in the high inflation--10% over centerpoint construction cost (40% overrun) case.

The royalty amounts are discounted at 9% for inflation and 3% for a real rate of return to obtain their present value. Gas prices had been escalated at 8%.

Table I
Present Value of Net Economic Benefits to Alaska
of the Alaska Natural Gas Transportation System
(MILLIONS 1982 $)

	LOW INFLATION SCENARIO		HIGH INFLATION SCENARIO	
	FY 82 Level of Service Budgets	Budgets at Spending Limit	FY 82 Level of Service Budgets	Budgets at Spending Limit
Benefits (Costs) Discounted @ 3%				
a) State Government	3375.5	3250.1	(2198.6)	(1033.0)
(1) FY 98 General Fund Balance Increase (Decrease) from Base Case	1641.0	1515.6	(3280.5)	(2119.9)
(2) FY 98 Permanent Fund Balance (Decrease) from Base Case	(21.9)	(21.9)	(534.0)	(534.0)
(3) FY 99-2016 Gas Revenues	1325.5	1325.5	1344.4	1344.4
(4) FY 86-2016 Reduced Oil Recovery	501.6	501.6	501.6	501.6
(5) Gas Revenues from Other Fields	?	?	?	?
(6) Erosion of Other State Assets due to Gasline Inflation (Retirement Funds, Rainy Day Fund)	(70.7)	(70.7)	(230.1)	(230.1)
b) Local Government	112.0	112.0	112.0	112.0
c) Private Sector	1118.4	1118.4	1118.4	1118.4
Present Value of Net Economic Benefits (Costs)	4605.9	4480.5	(968.2)	192.4

NOTES:

a) (1) & (2) Amounts from Table II discounted 3% per annum from 1998-1982
(3) Annual amounts from Division of Petroleum Revenue computer runs discounted at 9% inflation and 3% for real rate of return
(4) Net difference in Sadlerochit oil recovery (see footnote a) (4) from Table II) discounted at 3% real rate of return and multiplied by $20 per barrel in 1982 $ and 30% state share
(6) Amount from Table II

b) Amounts from Col. 5, Table XXII discounted at 3% real rate of return to 1982 and escalated at 9% inflation to 1982

c) Amounts from Col. 3, Table XXI discounted at 3% real rate of return to 1982 and escalated at 9% inflation to 1982

Table II
Net Economic Benefit to Alaska
of the Alaska Natural Gas Transportation System
(Millions 1982 $)

Benefits (Costs) not Discounted	LOW INFLATION SCENARIO		HIGH INFLATION SCENARIO	
	FY 82 Level of Service Budgets	Budgets at Spending Limit	FY 82 Level of Service Budgets	Budgets at Spending Limit
a) State Government	4161.0	3959.8	(4682.0)	(2819.5)
(1) FY 98 General Fund Balance Increase (Decrease) from Base Case	2633.3	2432.1	(5264.3)	(3401.8)
(2) FY 98 Permanent Fund Balance (Decrease) from Base Case	(35.2)	(35.2)	(854.4)	(854.4)
(3) FY 99-2016 Gas Revenues	2473.6	2473.6	2506.8	2506.8
(4) FY 06-2016 Reduced Oil Recovery	(840.0)	(840.0)	(840.0)	(840.0)
(5) Gas Revenues from Other Fields	?	?	?	?
(6) Erosion of Other State Assets due to Gasline Inflation (Retirement Funds, Rainy Day Fund)	(70.7)	(70.7)	(230.1)	(230.1)
b) Local Government	127.6	127.6	127.6	127.6
c) Private Sector	1233.2	1233.2	1233.2	1233.2
Net Economic Benefit (Cost)	5521.8	5320.6	(3321.2)	(1458.7)

NOTES: a) (1) & (2) FY 98 balances in FY 83 $ from Legislative Finance computer runs discounted at 9% inflation to 1982 $ and further discounted by the additional inflation from Tables IX and X in the gasline scenarios; also includes $70.3 million and $77.7 million in ¢/MCF severance taxes (1982 $) for the low and high inflation scenarios that were omitted from the computer analysis compounded @ 3% real rate of return to FY 98.

(3) Annual amounts from Division of Petroleum Revenue computer runs discounted at 9% inflation to 1982 $

(4) Net difference in Sadlerochit oil recovery from "Estimated State and Local Revenue from the Alaska Highway Natural Gas Pipeline Project", Berman and Myers, October 1980, Table B-1 valued at a constant $20 per barrel in 1982 $ multiplied by an assumed state share of 30%; Berman and Myers work is based on the March 1980 "Three-Dimensional Reservoir Study, Sadlerochit Formation" by Van Poollen.

(6) 1980 fund balances multiplied by additional gasline inflation from Tables IX and X.

b) Sum of Col. 5, Table XXII escalated at 9% per annum to 1982

c) Sum of Col. 3, Table XXI escalated at 9% per annum to 1982

TABLE III
ALASKA REVENUES
ASSUMING NO GAS LINE CONSTRUCTION
($ Millions)

FY	(1) Severance	(2) Royalties	(3) Petroleum Income Tax	(4) Property Tax	(5) Other Tax and License Revenue
82	1718.7	1678.4	713.0	155.0	210.0
83	1819.6	1767.0	304.0	157.0	212.8
84	2214.1	2145.1	360.0	225.0	222.4
85	2616.1	2542.6	373.0	283.1	244.8
86	2970.9	2869.6	400.0	304.2	269.5
87	3420.7	3322.2	430.0	317.9	296.7
88	3179.9	3629.1	460.0	317.9	326.7
89	3540.8	4003.8	490.0	318.0	359.6
90	3386.2	3880.4	520.0	318.0	395.9
91	3138.7	3667.7	550.0	318.0	435.9
92	3061.4	3644.4	580.0	305.0	479.9
93	3095.6	3709.9	610.0	293.0	528.3
94	3092.8	3723.3	640.0	281.0	581.6
95	2740.0	3404.3	670.0	270.0	640.2
96	2572.1	3276.6	700.0	259.0	704.9
97	2771.4	3552.8	730.0	251.0	775.9
98	2799.9	3673.6	730.0	238.0	854.3

NOTES:
1. "Petroleum Revenue Production Forecast", Alaska Department of Revenue, December 1981; amount is total severance from Table 1 less Prudhoe Bay gas production taxes from Table 2.
2. Ibid.; amount is total royalties from Table 1 less Prudhoe Bay gas royalties from Table 2.
3 & 4. Long range computer projections provided by Research Division, Alaska Department of Revenue.
5. FY 82-FY 84 derived from "Revenue Sources", Alaska Department of Revenue, January 1982.
FY 85-FY 98 escalated at 1% above the inflation rate of 9% used in projecting budget growth with no gasline.

TABLE IV
Alaska Revenues
Assuming Gas Line Construction
Low Inflation
($ Millions)

FY	(1) Severance	(2) Royalties	(3) Petroleum Income Tax	(4) Property Tax	(5) Other Tax and license Revenue
82	1718.7	1678.4	713.0	157.0	211.5
83	1819.6	1767.0	304.0	169.0	219.3
84	2214.1	2145.1	360.0	256.0	240.1
85	2616.1	2542.6	373.0	399.0	298.4
86	2970.9	2869.6	400.0	543.2	352.9
87	3460.7	3322.2	641.5	857.9	359.7
88	3219.9	3629.1	663.0	836.3	367.7
89	3580.8	4003.8	684.6	814.8	389.9
90	3426.2	3916.7	706.1	793.2	418.2
91	3256.9	3847.3	747.3	771.6	453.3
92	3257.3	3965.2	792.3	737.0	495.4
93	3348.7	4149.1	833.7	703.4	544.0
94	3357.0	4196.6	861.2	669.8	598.6
95	3014.3	3915.3	899.3	637.2	658.5
96	2844.4	3829.6	918.6	604.6	724.8
97	3033.1	4148.5	948.2	575.0	797.6
98	3076.6	4317.2	948.1	540.4	878.0

NOTES: 1, 2 & 3. Amounts from Table III plus amounts from Division of Petroleum Revenue computer run projecting gasline revenue based on $27 billion rate base for the Alaska line segment and conditioning plant. Gas wellhead prices are shown in Col. 5, Table VI . ¢/MCF severance added to computer run amounts.

4. FY 82-86 amounts from Col. 1, Table 2 of "Estimated State and Local Revenue from the Alaska Highway Natural Gas Pipeline Project", Berman and Myers, October 1980, escalated 10% per annum to yield nominal dollars.
   FY 87-98 amounts from Division of Petroleum Revenue computer run.
5. Amounts from Table VII

TABLE V
Alaska Revenues
Assuming Gas Line Construction
High Inflation
($ Millions)

FY	(1) Severance	(2) Royalties	(3) Petroleum Income Tax	(4) Property Tax	(5) Other Tax and license Revenue
82	1718.7	1678.4	713.0	157.0	211.5
83	1819.6	1767.0	304.0	169.0	219.3
84	2214.1	2145.1	360.0	257.0	240.2
85	2616.1	2542.6	373.0	409.0	299.8
86	2970.9	2869.6	400.0	572.8	359.4
87	3460.7	3322.2	642.7	911.9	367.1
88	3219.9	3629.1	664.2	888.1	372.8
89	3580.8	4003.8	685.7	854.5	393.5
90	3426.2	3880.4	707.2	840.7	420.8
91	3193.1	3736.9	730.0	817.0	455.3
92	3186.3	3839.3	772.4	780.2	497.3
93	3295.9	4051.4	818.4	744.4	545.9
94	3357.0	4196.6	862.0	708.7	600.5
95	3014.3	3915.3	890.1	673.9	660.6
96	2844.4	3829.6	919.3	639.2	727.2
97	3033.1	4148.5	948.9	607.4	800.2
98	3076.6	4317.2	948.9	570.6	880.9

NOTES: 1, 2 & 3. Amounts from Table III plus amounts from Division of Petroleum Revenue computer run projecting gasline revenue based on $29.7 billion rate base for the Alaska line segment and conditioning plant. Gas wellhead prices are shown in Col. 8 of Table VI. ¢/MCF severance added to computer run amounts.

4. FY 82-86 amounts from Col. 1, Table 2 of "Estimated State and Local Revenue from the Alaska Highway Natural Gas Pipeline Project", Berman and Myers, October 1980, escalated at inflation rates in Table X to yield nominal dollars.
FY 87-98 amounts from Division of Petroleum Revenue computer run.

5. Amounts from Table XIII.

TABLE VI
ALASKA NORTH SLOPE GAS PRICES

			LOW INFLATION SCENARIO (CURRENT ANGTS ESTIMATE)			HIGH INFLATION SCENARIO (40% ANGTS OVERRUN)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FY	Oil Price ($/MMBtu)	Alaska Gas Wellhead NGPA Price ($/MMBtu)	ANGTS Delivered Unit Cost Base Case ($/MMBtu)	Alaska Gas Wellhead Netback ($/MMBtu)	Alaska Gas Wellhead Netback ($/MCF)	ANGTS Delivered Cost 40% Overrun ($/MMBtu)	Alaska Gas Wellhead Netback ($/MMBtu)	Alaska Gas Wellhead Netback ($/MCF)
80	5.13	1.786						
87	8.79	3.06	15.90	-		17.48	-	-
88	9.49	3.30	15.30	-		16.66	-	-
89	10.25	3.57	14.80	-		15.99	-	-
90	11.07	3.85	14.30	.62	.65	15.65	-	-
91	11.96	4.16	14.00	2.12	2.24	15.15	.97	1.03
92	12.91	4.50	13.80	3.61	3.81	15.11	2.30	2.43
93	13.95	4.86	13.80	4.86	5.13	14.96	3.85	4.06
94	15.06	5.24	-	5.24	5.53	14.68	5.24	5.53
95	16.26	5.66	-	5.66	5.97	15.06	5.66	5.97
96	17.57	6.12	-	6.12	6.46	15.41	6.12	6.46
97	18.97	6.60	-	6.60	6.96	15.91	6.60	6.96
98	20.49	7.13	-	7.13	7.52	15.98	7.13	7.52

NOTES: 1. & 2. Escalated at 8% per annum; 1980 oil value from "Cost of Service for ANGTS", Federal Inspector for ANGTS, October 19, 1981; 1980 NGPA ceiling price from FERC.
3. Interpolated from Chart on page 729 of "Cost of Service for the ANGTS".
4. Col. 2 - Col. 3 + Col. 1
5. Col. 4 x 1.055 MMBtu per MCF for Sadlerochit gas
6. Interpolated in 1980 $ from chart on page 731 of "Cost of Service for the ANGTS"; escalated at 8% per annum for nominal dollars.
7. Col. 2 - Col. 6 + Col. 1
8. Col. 7 x 1.055

Table VII
ALASKA NON-PETROLEUM REVENUES
RESULTING FROM GASLINE CONSTRUCTION
LOW INFLATION
($ Millions)

FY	(1) Corporate Income Taxes of Pipeline Contractors	(2) Other Corporate Income Taxes	(3) Excise Taxes and Licenses	(4) Total Non-Petroleum Revenue
82	1.1	.1	.3	1.5
83	4.8	.7	1.0	6.5
84	9.2	3.2	5.3	17.7
85	26.2	9.6	17.8	53.6
86	33.7	16.3	33.4	83.4
87	21.2	13.1	28.7	63.0
88	1.9	13.5	25.6	41.0
89		12.5	17.8	30.3
90		10.6	11.7	22.3
91		8.4	9.0	17.4
92		7.6	7.9	15.5
93		7.7	8.0	15.7
94		8.2	8.8	17.0
95		8.8	9.5	18.3
96		9.6	10.3	19.9
97		10.4	11.3	21.7
98		11.4	12.3	23.7

Notes: 1. Amounts from Table 2 of "Estimated State and Local Revenue from the Alaska Highway Natural Gas Pipeline Project", Berman and Myers, October 1980, lagged one year to reflect current estimated construction commencement date and escalated 9% plus the additional inflation from Table IX per annum.

2 & 3. Amounts from Table 5 of Berman and Myers lagged one year and escalated as in footnote 1.

4. Col. 1 + Col. 2 + Col. 3.

Table VIII
ALASKA NON-PETROLEUM REVENUES
RESULTING FROM GASLINE CONSTRUCTION
HIGH INFLATION
($ Millions)

FY	(1) Corporate Income Taxes of Pipeline Contractors	(2) Other Corporate Income Taxes	(3) Excise Taxes and Licenses	(4) Total Non-Petroleum Revenue
82	1.1	.1	.3	1.5
83	4.[illegible]	.7	1.0	6.5
84	9.[illegible]	3.2	5.3	17.8
85	26.9	9.9	18.2	55.0
86	36.3	17.6	36.0	89.9
87	23.7	14.6	32.1	70.4
88	2.1	15.1	28.9	46.1
89		13.9	20.0	33.9
90		11.8	13.1	24.9
91		9.4	10.0	19.4
92		8.5	8.9	17.4
93		8.6	9.0	17.6
94		9.1	9.8	18.9
95		9.8	10.6	20.4
96		10.7	11.6	22.3
97		11.7	12.6	24.3
98		12.8	13.8	26.6

NOTES 1. Amounts from Table 2 of "Estimated State and Local Revenue from the Alaska Highway Natural Gas Pipeline Project", Berman and Myers, October 1980, lagged one year to reflect current estimated construction commencement date and escalated 9% plus the additional inflation from Table X per annum lagged one year for fiscal year basis and delay in payment dates.

2 & 3. Amounts from Table 5 of Berman and Myers lagged one year and escalated as in footnote 1.

4. Col. 1 + Col. 2 + Col. 3

TABLE IX

Impact of Gasline on Alaska Inflation

Low Inflation Estimate

FY	(1) AEIRS CPI No Gasline	(2) AEIRS CPI Gasline	(3) Annual Inflation No Gasline	(4) Annual Inflation with Gasline	(5) Additional Inflation Due to Gasline
81	2.466	2.501	-	-	-
82	2.684	2.751	8.84%	10.00%	-
83	2.919	3.024	8.76	9.92	1.06%
84	3.169	3.318	8.56	9.72	1.07
85	3.445	3.646	8.71	9.89	1.07
86	3.753	4.017	8.94	10.18	1.09
87	-	-	-	-	1.14
88	-	-	-	-	-

NOTES:
1. Projected Anchorage CPI from Table II, "Alaska Economic Information and Reporting System", Alaska Department of Commerce and Economic Development, July, 1980.
2. Projected Anchorage CPI from Table II of a July 10, 1980 run of the AEIRS model simulating gasline construction.

3 & 4. Annual percentage increase in Cols. 1 and 2.

5. (1 + Col. 4/100) ÷ (1 + Col. 3/100) - 1; amounts lagged one year to reflect current estimated construction commencement date.

TABLE X
Impact of Gasline on Alaska Inflation
HIGH INFLATION ESTIMATE

Calendar Year	(1) Alaska Gasline Construction Cost Billions 1980 $	(2) Additional Inflation Due To Gasline	(3) Cumulative Additional Inflation
82	.6	--	--
83	1.2	2%	2.00%
84	3.3	4%	6.08%
85	3.3	6%	12.44%
86	2.4	5%	18.06%
Total	10.8		

Notes:

1. Incremental construction costs for line with 30% overrun for IROR centerpoint interpolated from chart on page 714 of "Cost of Service for the Alaska Natural Gas Transportation System", FERC Federal Inspector for ANGTS, October 19, 1981.

2. Arbitrary estimate of the author.

3. Product of inflation for current year times all previous years.

TABLE XI

IMPACT OF TAPS CONSTRUCTION ON INFLATION

Year	(1) U.S. CPI (October)	(2) U.S. Inflation	(3) Anchorage CPI	(4) Anchorage Inflation	(5) Anchorage vs. U.S. Inflation	(6) Anchorage Inflation During TAPS Construction in Excess of 67-73 Average Margin	(7) Anchorage Inflation Below 67-73 Average Margin Following TAPS Construction
67	101.1		100.0				
68	105.7	4.55%	102.6	2.60%	(1.95%)		
69	111.6	5.59	107.3	4.58	(1.01)		
70	118.1	5.82	111.5	3.91	(1.91)		
71	122.4	3.64	114.4	2.60	(1.04)		
72	126.6	3.43	116.9	2.18	(1.25)		
73	136.6	7.90	123.8	5.90	(2.00)		
74	153.0	12.01	140.0	13.08	1.07	2.60%	
75	164.6	7.58	157.4	12.42	4.84	6.37	
76	173.3	5.29	167.6	6.48	1.19	2.72	
77	184.5	6.46	177.3	5.79	(.67)	.86	
78	200.9	8.89	194.7	9.81	.92	2.45	
79	225.4	12.20	213.7	9.75	(2.45)		(.92%)
80	253.9	12.64	236.5	10.67	(1.97)		(.44)
81	279.9	10.24	253.7	7.27	(2.97)		(1.44)
Average 1967-1973 Margin Below U.S. Inflation					(1.53)		
Cumulative Inflation						15.83%	2.82%

NOTES: Columns 6 and 7 assume that in the absence of TAPS, Anchorage inflation would have been 1.53 percentage points below U.S. inflation.

Table XII
Alaska Population
(000)

FY	(1) Non-Gasline Population	(2) Gasline Construction Population	(3) Conditioning Plant Construction Population	(4) Total Population with Gasline	(5) Population Growth with Gasline
82	425.6	.4	--	426.0	
83	437.7	3.7	.5	441.9	3.73%
84	450.1	17.6	1.9	469.6	6.27
85	462.9	35.3	3.6	501.8	6.86
86	476.0	31.1	3.2	510.3	1.69
87	489.6	19.1	1.9	510.6	--
88	503.5			503.5	(1.39)
89	517.8			517.8	2.84
90	532.5			532.5	2.84
91	547.6			547.6	2.84
92	563.1			563.1	2.84
93	579.1			579.1	2.84
94	595.6			595.6	2.84
95	612.5			612.5	2.84
96	629.9			629.9	2.84
97	647.8			647.8	2.84
98	666.2			666.2	2.84

NOTES:
1. FY 82 = July 1, 1981 population from "July 1, 1981 Population, Municipalities and Census Areas", Department of Community and Regional Affairs escalated at one-half the average compound growth rate between the 1970 and 1980 census which was 2.84%;
   FY 82 and beyond = prior year population x 1.0284
2. Population 3.B from Table II of "The Relationship between the Alaska Natural Gas Pipeline and State and Local Government Expenditures", Institute of Social and Economic Research, December 1980 divided by pipeline construction employment in Table 2 of ISER lagged one year and multiplied by estimated pipeline construction employment in Table II-1 of "Gasline Planning Update", Northwest Alaska Pipeline Company, September 1981; figures include direct, indirect, and government spending induced employment impact and employees' families.
3. Same ratio as footnote 2 multiplied by direct employment on conditioning plant construction interpolated from Table VI-2 of "Gasline Planning Update" til peak construction year of FY 85. Population declines thereafter at same rate as Col. 2.
4. Col. 1 + Col. 2 + Col. 3
5. Annual percentage increase in Col. 4

TABLE XIII
State of Alaska
Nominal General Fund Budget Growth at the Level Permitted by the Proposed Constitutional Spending Limit

FY	(1) NO GASLINE	(2) GASLINE LOW INFLATION	(3) GASLINE HIGH INFLATION
83	12.10%	14.26%	15.33%
84	12.10	17.07	20.47
85	12.10	17.72	23.47
86	12.10	12.05	12.11
87	12.10	10.24	9.00
88	12.10	7.48	7.48
89-90, annually	12.10	12.10	12.10

NOTES:
1. Annual inflation at 9% x average population growth of 2.84% between 1970 and 1980 census.
2. Population growth from Col. 5, Table XII x annual inflation of 9% x additional inflation due to gasline from Col. 5, Table IX
3. Population growth from Col. 5, Table XII x annual inflati 9% x additional inflation from Col 2, Table X

TABLE XIV

State of Alaska

Nominal General Fund Budget Growth Required to Maintain FY 82 Level of Service

	(1)	(2)	(3)	(4)	(5)	(6)
	NO GASLINE		GASLINE LOW INFLATION		GASLINE HIGH INFLATION	
FY	Operating	Capital	Operating	Capital	Operating	Capital
83	11.36%	11.70%	13.21%	13.31%	14.26%	14.36%
84	"	"	15.09	14.51	18.43	17.83
85	"	"	15.53	14.78	21.17	20.38
86	"	"	11.73	12.38	16.05	16.73
87	"	"	10.53	11.64	9.28	10.33
88	"	"	8.28	9.74	8.28	9.74
89-98, annually	11.36%	11.70%	11.36	11.70	11.36	11.70

NOTES:

1. & 2. Real growth rates from Cols. 1 and 2, Table XVI x 9% annual inflation
3. & 4. Real growth rates from Cols. 3 and 4, Table XVI x 9% annual inflation x additional inflation due to gasline from Col. 5, Table IX
5. & 6. Real growth rates from Cols. 3 and 4, Table XVI x 9% annual inflation x additional inflation due to gasline from Col. 2, Table X

TABLE XV
STATE OF ALASKA
HIGHWAY COST IMPACT OF THE GASLINE
($ MILLIONS)

FY	Original Cost Estimate (Nominal $)	Original Cost Estimate (1980 $)	Low Inflation Cost Estimate (Nominal $)	High Inflation Cost Estimate (Nominal $)
82	8.4	6.9	-	-
83	25.7	19.3	9.1	9.3
84	31.1	21.2	28.3	29.3
85	31.0	19.2	34.1	37.0
86	207.1	116.7	34.0	38.2
87	-	-	227.4	253.0
TOTAL	303.3	183.3	332.9	366.8

NOTES:

1. Amounts from July 21, 1980 letter from Commissioner Robert Ward of the Alaska Department of Transportation and Public Facilities to Al Kuhn of Northwest Alaskan Pipeline Company.

2. FY 82-85: amount from Co. 1 discounted at 10% per annum, the inflation rate assumed in Commissioner Ward's letter.
   FY 86: amount from Commissioner Ward's letter

3. Col. 2 inflated at 10% per annum to succeeding year to reflect current estimated construction commencement date.

4. Col. 2 inflated at 9% per annum plus additional inflation from Table X to succeeding year.

TABLE XVI
STATE OF ALASKA
REAL GENERAL FUND BUDGET GROWTH REQUIRED TO MAINTAIN FY 82 LEVEL OF SERVICE PER CAPITA

	(1)	(2)	(3)	(4)
	No Gasline		Gasline	
FY	Operating	Capital	Operating	Capital
83	2.17%	2.48%	2.77%	2.86%
84	2.17%	2.48%	4.47%	3.94%
85	2.17%	2.48%	4.87%	4.19%
86	2.17%	2.48%	1.40%	1.99%
87	2.17%	2.48%	.26%	1.27%
88	2.17%	2.48%	(.66)%	.68%
89-98, annually	2.17%	2.48%	2.17%	2.48

NOTES:

1. 2.84% population growth (see Footnote 1, Table XII) x .764 which is the proportion of the general fund operating budget estimated to be population sensitive in Table 5 of ISER study (mentioned in Footnote 2, Table XII); this includes a percentage for government support activities in the same ratio as directly population sensitive programs are to the total general fund budget; it also includes population sensitive programs outside the impact area from Table B.1 of ISER.

2. 2.84 population growth x .872 which is the proportion of the general fund and general obligation bond capital budget estimated to be population sensitive in Table B.3 of ISER; this growth rate is to be applied to one-twentieth of the total capital stock in Col. 5, Table XVII adjusted for inflation at 9% over a three year construction period, a factor of 1.2.

3. No gasline growth rate from Col. 1 x (additional gasline growth rate, ((1 + Col. 5, Table XII)/1.0284)-1, x .735 population sensitive operating budget in impact areas derived from ISER Table 5 x .919 to reflect different age and family structure of migrants); .919 is derived from Table B.2 and Table 5 of ISER by comparing the total population sensitive general fund budget per capita to the cost per capita calculated for migrants.

4. No gasline growth rate from Col. 2 x (additional gasline growth rate, ((1 + Col. 5, Table XII)/1.0284)-1, x .465 population sensitive non-highway impact area capital budget estimated from Table B.3 of ISER x .917 to reflect different age and family structure of migrants); .917 is derived from Table B.4 of ISER; this growth rate is to be applied to one-twentieth of the non-highway capital stock in Col. 10, Table XVII adjusted for inflation (see Footnote 2).

TABLE XVIII
STATE OF ALASKA
STATE-FUNDED CAPITAL STOCK IN MILLIONS OF FY 82 $

	TOTAL					NON-HIGHWAY				
FY	(1) Gen.Fund Capital Approp.	(2) G.O.Bond Authoriza-tions	(3) Annual Projects Completed	(4) Value of Projects Completed	(5) Value of Cap.Stock FY 82 $	(6) Gen.Fund Capital Approp.	(7) G.O.Bond Authoriza-tions	(8) Annual Projects Completed	(9) Value of Projects Completed	(10) Value of Cap.Stock FY 82 $
63	6.8					2.0				
64	8.2	7.0				2.8	7.0			
65	.9					.9				
66	2.0	62.6	6.8	25.2		1.8	52.1	2.0	7.4	
67	1.3	13.2	15.2	53.6		1.3	8.2	9.8	34.6	
68	1.8	44.7	.9	3.0		1.8	33.5	.9	3.0	
69	2.3		64.6	200.7		2.2		53.9	167.5	
70	2.0	146.2	14.5	42.1		2.0	111.5	9.5	27.6	
71	61.2		46.5	125.7		57.5		35.3	95.4	
72	8.4	124.5	2.3	5.9		8.4	114.5	2.2	5.6	
73	11.6		148.2	345.3		10.5		113.5	264.5	
74	7.5	189.5	61.2	125.4		7.4	152.2	57.5	117.8	
75	12.4		132.9	248.6		11.1		122.9	229.9	
76	16.2	201.1	11.6	20.9		14.8	150.0	10.5	18.9	
77	10.9		197.0	325.1		10.1		159.6	263.4	
78	29.8	271.3	12.4	18.2		27.3	188.4	11.1	16.3	
79	138.9		217.3	281.4		137.7		164.8	213.4	
80	100.6	289.7	10.9	12.9		89.9	206.1	10.1	12.0	
81	707.4		301.1	328.2		622.2		215.7	235.1	
82	1380.0	-	138.9	138.9		1287.9		137.7	137.7	
83			390.3	358.1				296.0	271.6	
84			707.4	595.4				622.2	523.7	
85			1380.0	1065.6	3175.5			1287.9	994.5	2728.0

NOTES: 1. FY 63-79 amounts from general appropriations act plus Ch. 134 for FY 79. FY 80-82 amounts from "Alaska Budget in Brief, FY 82," Division of Budget & Management.

2. Amounts from "Annual Financial Report" State of Alaska, various years.

3. Col. 1 and Col. 2 lagged three years.

4. Col. 3 x Department of Commerce Construction Index derived from Table 13 of the ISER study (mentioned in Footnote 2, Table XII) adjusted to FY 82 $ assuming 9% annual inflation for FY 80-85.

5. This is what the value of all projects would be in FY 82 $ upon completion of all authorized projects in FY 85 after depreciating each year's projects over a 20 year period.

6. Amounts for highways from "Annual Financial Report," State of Alaska, various years and "Free Conference Committee Report, Operating and Capital Budget" Alaska Legislature, various years and Session Laws of Alaska, various years, are deducted from Col. 1.

7. Col. 2 less amounts for highways bond issues from "Annual Financial Report," State of Alaska, various years.

8. Col. 6 and Col. 7 lagged three years

9. Same method as Footnote 4.

10. Same method as Footnote 5.

TABLE XVIII
State of Alaska
Capital Projects
($ Millions)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		HYDROELECTRIC PROJECTS						
	Governor's Six-year	Licensed or under	West Creek Bradley Lake	SUSITNA			Capital City	Total Capital
FY	Capital Budget	Construction	Taximina	Watana	Devil Canyon	Total Hydro	Relocation	Projects
83	1156.0	228.0	200.0	25.6		453.6	-	1609.6
84	1819.4		200.0	50.0		250.0	13.4	2082.8
85	981.8		180.0	220.0		400.0	64.0	1445.8
86	782.9		160.0	490.0		650.0	120.8	1553.7
87	1001.2			600.0		600.0	110.7	1711.9
88	1106.2			750.0		750.0	[illegible]	1999.6
89				900.0		900.0	1[illegible]	1020.5
90				1000.0		1000.0	150.9	1150.9
91				750.0		750.0	97.6	847.6
92				610.0		610.0	153.0	763.0
93				460.0	480.0	940.0	172.5	1112.5
94					610.0	610.0	145.7	755.7
95					760.0	760.0	120.8	880.8
96					830.0	830.0	134.5	964.5
97					900.0	900.0	88.9	988.9
98					860.0	860.0	39.8	899.8
TOTAL	6847.5			5855.6		11263.6	1676.5	19787.6

NOTES: 1. Computer total of general fund (including voter approval) projects contained in "Executive Budget, Book 2- Capital Budget and Six Year Capital Program, FY 83", Jay Hammond, Governor, provided by Budget and Management.
2. Figure provided by Alaska Power Authority.
3 & 4. Figures provided by Alaska Power Authority; assumes 9% inflation; costs not yet definitive; project feasibility uncertain; Watana costs $3.5 billion in January 1982 $
5. According to Alaska Power Authority, Devil Canyon will cost $1.55 billion in January 1982 $ and would be constructed over a seven year period beginning sometime between 1990 and 1996; scheduled appropriations in Col. 5 estimated by comparison to Watana schedule in January 1982 $
6. Sum of Col. 2 thru 5
7. Amounts from a table on pages 82 and 83 of "Financial Plan and Detailed Economic Projections, Background Report No. 9", Capital Site Planning Commission, March 1978 which are in 1978 dollars have been inflated at 9% per annum and lagged four years; figures are net of land sales and developers costs and represent state and municipal investment exclusive of any financing costs.

COMMENT: These amounts have not been appropriated; appropriation of these amounts may depend on future levels of state revenue.

TABLE XIX

Alaska Personal Income
Resulting from Gasline Impact
(Millions 1980 $)

FY	(1) Wages	(2) Gasline Construction Corporate Profits	(3) Corporate Profits From Indirect Gasline Impact	(4) Personal Income From Gasline Impact
82	13.9	5.3	1.1	20.3
83	171.9	21.2	6.4	199.5
84	593.1	37.2	25.5	655.8
85	1115.8	95.7	70.2	1281.7
86	980.9	111.7	108.5	1201.1
87	591.3	63.8	78.7	733.8

Notes:

1. Amount from Col. 8, Table XX
2. Income taxes of pipeline contractors from Table 2 "Estimated State and Local Revenue from the Alaska Highway Natural Gas Pipeline Project", Berman and Myers, October 1980 ÷ .094 Alaska tax rate x 50% rough assumption of Alaskan-owned businesses' share of contracts; amounts lagged one year for construction commencement.
3. Income taxes from Table 5 of Berman and Myers ÷ .094; lagged one year.
4. Sum of Cols. 1 through 3

TABLE XX
Alaska Employment and Wages
Resulting from Gasline Impact

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	EMPLOYMENT				WAGES (Millions 1980 $)			
	CONSTRUCTION				CONSTRUCTION			
FY	Staff	Craft	Other	Total	Staff	Craft	Other	Total
82	220	32	134	386	8.3	1.9	3.7	13.9
83	1290	1072	2185	4547	48.5	63.0	60.4	171.9
84	2859	4216	8607	15682	107.4	247.9	237.8	593.1
85	3607	7805	18875	30287	135.5	458.9	521.4	1115.8
86	1957	5255	21660	28872	73.5	309.0	598.4	980.9
87	314	378	20172	20864	11.8	22.2	557.3	591.3

NOTES:

1. & 2. Ratio of staff and craft to total pipeline construction employment as contained in Table 2, "The Relationship Between the Alaska Natural Gas Pipeline and State and Local Government Expenditures", Goldsmith and Mogford, ISER, December 1980, applied to estimated pipeline and conditioning plant construction contained in Tables II-1 and VI-2 of "Gasline Planning Update", Northwest Alaskan Pipeline Company, December 1980; ratio lagged one year;
3. Col. 4 less Cols. 1 and 2;
4. Ratio of Col. 4 to Col. 1 on page A-11 of "ISER" x sum of Col. 1 and Col. 2 above, ratio lagged one year; includes state government employment;
5. Average salary of $37,650 as calculated on page A-6 of "ISER" x Col. 1;
6. Average wage of $20 per hour for 70 hour weeks for 42 weeks per year as calculated on pages A-5 and A-7 of "ISER" x Col. 2;
7. Col. 3 x average weekly earnings for non-government and non-service employment for November 1980 of $531.27 as calculated from February 1981 and 1982 issues of "Alaska Economic Trends", Alaska Department of Labor, x 52;
8. Sum of Cols. 5 through 7.

TABLE XXI
PRIVATE SECTOR ECONOMIC BENEFIT
FROM GASLINE IMPACT
(MILLIONS 1980 $)

FY	(1) Wage Gains of Alaska Residents	(2) Corporate Profits	(3) Total Benefits
82	1.9	6.4	8.3
83	27.9	27.6	55.5
84	96.1	62.7	158.8
85	167.7	165.9	333.6
86	110.1	220.2	330.3
87	9.0	142.5	151.5

NOTES:

1. This assumes only pipeline employees experience a gain in wages in real dollars. It assumes that 60% of pipeline jobs go to Alaska residents, based on a review of the TAPS experience in "The Relationship Between the Alaska Natural Gas Pipeline and State and Local Government Experiences," Goldsmith and Mogford, ISER, December 1980. The gain in wages is calculated on the basis of wage rates in footnotes 5, 6, and 7 of Table XX applied to 60% of the employment in Cols. 1 and 2 of Table XX

2. Sum of Cols. 2 and 3 from Table ..

3. Sum of Cols. 1 and 2.

TABLE XXII
Alaska Local Government
Revenues and Expenditures
from Gasline Impact
(Millions 1980 $)

FY		(1) Additional Revenue	(2) Additional Expenditures Operating	(3) Capital	(4) Total	(5) Surplus (Deficit)
82		.3	.1	--	.1	.2
83		2.1	1.5	.3	1.8	.3
84		7.2	6.9	1.4	8.3	(1.1)
85		25.6	13.8	2.8	16.6	9.0
86		62.8	12.1	2.5	14.6	48.2
87		59.7	7.4	1.5	8.9	50.8
	TOTAL	157.7	41.8	8.5	50.3	107.4

Notes:

1. Sum of Col. 5, Table 3 and Col. 6, Table 5 of "Estimated State and Local Revenue from the Alaska Nat ral Gas Pipeline Project", Berman and Myers, October 1980; amounts include direct and indirect effects of gasline construction on local property and sales taxes;
2. Estimated calendar 1979 expenditures per migrant of $353.70 per annum in 1980 $ from "The Relationship Between the Alaska Natural Gas Pipeline and State and Local Government Expenditures", Goldsmith and Mogford, ISER, December 1980, multiplied by the sum of gasline and conditioning plant construction-related population increases from Cols. 2 and 3 of Table XII;
3. Expenditures of $72.28 per migrant required to maintain 1979 level of local government fixed assets as estimated by Goldsmith and Mogford multiplied by population impact as ir footnote 2.
4. Col. 2 + Col. 3.
5. Col. 1 - Col. 4.

APPENDIX A

STATE OF ALASKA
LEGISLATIVE FINANCE WORKING DOCUMENT
BUDGET FORECASTING MODEL

1

13-FEB-82

NO GASLINE
DEPT OF REVENUE ESTIMATES
FY82 LEVEL OF SERVICE BUDGETS

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1982										4005.3	-693.4	
1983	3818.7	402.0	4220.7	1830.2	212.8	113.2	152.5	2308.6	1912.0	4771.9	1218.6	0.0
1984	4630.3	762.4	5392.7	2038.1	232.7	138.8	162.3	2576.9	2815.8	5606.2	4034.5	0.0
1985	5424.0	1306.9	6730.9	2269.6	265.5	163.8	231.8	2930.7	3800.1	6505.0	7834.6	0.0
1986	6046.8	1969.6	8066.4	2527.5	296.6	161.9	300.6	3286.5	4779.8	7459.1	12614.4	0.0
1987	6957.0	2764.1	9721.1	2814.6	331.3	152.8	367.2	3670.9	6050.2	8513.6	18664.6	0.0
1988	7006.3	3646.9	10653.2	3134.3	370.0	154.8	423.6	4082.8	6570.4	9664.3	25235.0	0.0
1989	7698.8	4646.7	12345.5	3490.4	413.3	146.5	485.0	4535.2	7810.3	10944.2	33045.3	0.0
1990	7504.1	5757.4	13261.5	3806.9	461.7	135.7	551.3	5035.3	8226.2	12218.7	41271.5	0.0
1991	7172.2	6919.8	14092.0	4328.5	515.7	114.8	621.6	5580.5	8511.5	13454.1	49783.0	0.0
1992	7095.9	8138.5	15234.4	4820.2	576.0	114.1	694.8	6205.2	9029.2	14730.3	58812.2	0.0
1993	7219.3	9444.5	16663.8	5362.7	643.4	31.7	770.5	6813.3	9850.5	16053.9	68662.6	0.0
1994	7272.1	10847.3	18119.4	5977.5	718.7	25.8	847.6	7569.7	10549.8	17413.3	79212.4	0.0
1995	6746.5	12301.6	19048.0	6656.6	802.8	23.0	925.4	8407.7	10640.3	18707.8	89852.7	0.0
1996	6541.8	13786.4	20328.2	7412.7	896.7	21.5	1003.5	9334.5	10993.7	19993.6	100846.4	0.0
1997	6984.4	15357.4	22341.8	8254.8	1001.7	16.7	1082.7	10355.8	11985.9	21377.2	112832.3	0.0
1998	7159.9	17038.1	24198.0	9192.6	1118.8	14.4	1163.3	11489.1	12708.9	22839.6	125541.2	0.0

STATE OF ALASKA
LEGISLATIVE FINANCE WORKING DOCUMENT
BUDGET FORECASTING MODEL
FY 1983 $

1

13-FEB-82

NO GASLINE
DEPT OF REVENUE ESTIMATES
FY82 LEVEL OF SERVICE BUDGETS

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1982										4005.3	-693.4	
1983	3818.7	402.0	4220.7	1830.2	212.8	113.2	152.5	2308.6	1912.0	4271.9	1218.6	0.0
1984	4248.0	699.5	4947.5	1869.8	218.1	127.3	148.9	2364.1	2583.3	5143.3	3701.3	0.0
1985	4565.2	1100.0	5665.2	1910.3	223.5	137.9	195.1	2466.7	3198.5	5475.1	6594.2	0.0
1986	4707.8	1520.9	6228.7	1951.7	229.0	125.0	232.1	2537.8	3690.9	5259.8	9740.7	0.0
1987	4928.5	1958.2	6886.6	1993.9	234.7	111.8	260.1	2600.6	4286.1	6031.2	13222.5	0.0
1988	4553.6	2370.2	6923.9	2037.1	240.5	100.6	275.3	2653.5	4270.3	6281.1	16401.0	0.0
1989	4590.5	2770.7	7361.2	2081.2	246.5	87.4	289.2	2704.2	4657.0	6525.7	19703.8	0.0
1990	4105.0	3149.5	7254.5	2126.3	252.6	74.1	301.6	2754.5	4500.0	6684.0	22576.9	0.0
1991	3599.5	3472.8	7072.3	2172.3	258.8	57.6	311.9	2800.7	4271.6	6752.1	24984.4	0.0
1992	3267.1	3747.2	7014.3	2219.3	265.2	52.5	319.9	2857.0	4157.3	6782.2	27028.8	0.0
1993	3049.5	3989.5	7039.0	2267.4	271.8	13.4	325.5	2878.0	4161.0	6781.3	29003.8	0.0
1994	2818.2	4203.7	7021.9	2316.5	278.5	10.0	328.5	2933.5	4088.4	6748.2	30697.4	0.0
1995	2398.6	4373.6	6772.2	2366.6	285.4	8.2	329.0	2989.2	3783.0	6651.3	31945.8	0.0
1996	2133.8	4496.8	6630.6	2417.9	292.5	7.0	327.3	3044.7	3585.9	6521.5	32893.9	0.0
1997	2090.1	4595.6	6685.7	2470.2	299.7	5.0	324.0	3099.0	3586.7	6397.1	33764.7	0.0
1998	1965.7	4677.6	6643.3	2523.7	307.2	4.0	319.4	3154.2	3489.1	6270.3	34465.8	0.0

ASSUMPTIONS

	EXISTING DEBT SERVICE	NEW DEBT	SEVERANCE TAXES	PETROL INCOME TAX	PROPERTY TAX	OTHER REVENUE	ROYALTIES X% TO PF	ROYALTIES 50% TO PF
1983	94.2	0.0	1,819.6	304.0	157.0	212.8	1,767.0	0.0
1984	91.3	0.0	2,214.1	360.0	225.0	222.4	2,145.1	0.0
1985	87.9	0.0	2,616.1	373.0	283.1	244.8	2,542.6	0.0
1986	84.0	0.0	2,970.9	400.0	304.2	269.5	2,869.6	0.0
1987	81.9	0.0	3,420.7	430.0	317.9	296.7	3,322.2	0.0
1988	78.9	0.0	3,179.9	460.0	317.9	326.7	3,629.1	0.0
1989	70.6	0.0	3,540.8	490.0	318.0	359.6	3,954.0	48.8
1990	59.5	0.0	3,386.2	520.0	318.0	395.9	3,793.3	76.1
1991	36.9	0.0	3,138.7	550.0	318.0	435.9	3,582.9	84.8
1992	38.2	0.0	3,061.4	580.0	305.0	479.9	3,389.4	255.0
1993	31.7	0.0	3,095.6	610.0	293.0	528.3	3,349.8	360.1
1994	25.8	0.0	3,092.8	640.0	281.0	581.6	3,260.1	463.2
1995	23.0	0.0	2,740.0	670.0	270.0	640.2	2,896.5	507.8
1996	21.5	0.0	2,572.1	700.0	259.0	704.9	2,670.0	606.6
1997	16.7	0.0	2,771.4	730.0	251.0	775.9	2,778.8	744.0
1998	14.4	0.0	2,799.9	730.0	238.0	854.3	2,803.6	870.0

ANNUAL RATE OF INTEREST ON GENERAL & PERMANENT FUNDS	=	0.120
ANNUAL RATE OF INTEREST ON NEW BONDS	=	0.100
MATURITY PERIOD ON NEW BONDS IN YEARS	=	10.000
% OF OPERATING BUDGET IN G.F. CASH BAL	=	0.200
% OF ROYALTIES TO PERMANENT FUND	=	0.250
OPERATING BUDGET GROWTH RATE	=	0.114
% OF PERMANENT FUND EARNINGS PAID AS DIVIDENDS	=	0.500
CAPITAL BUDGET GROWTH RATE	=	0.117
INFLATION RATE	=	0.090
'1' IF PERMANENT FUND INCOME BASED ON 5 YEAR AVERAGE	=	1.000
PER CAPITA DIVIDEND	=	50.000
NUMBER OF PRIOR YEAR DIVIDEND RECIPIENTS	=	2.966
GROWTH RATE IN DIVIDEND RECIPIENTS	=	0.028

STATE OF ALASKA
LEGISLATIVE FINANCE WORKING DOCUMENT
BUDGET FORECASTING MODEL

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13-FEB-02

NO GASLINE
DEPT OF REVENUE ESTIMATES
FY02 LEVEL OF SERVICE BUDGETS
SURPLUS SPENT ON CAPITAL

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1982										4005.3	-693.4	
1983	3818.7	392.4	4211.0	1830.2	1421.8	113.2	152.5	3517.6	693.4	4771.9	0.0	0.0
1984	4630.3	671.9	5302.2	2038.1	2963.0	138.8	162.3	5302.2	0.0	5606.2	0.0	0.0
1985	5424.0	988.7	6412.7	2269.6	3747.5	163.8	231.8	6412.7	0.0	6505.0	0.0	0.0
1986	6096.8	1252.3	7349.1	2527.5	4359.1	161.9	300.6	7349.1	0.0	7459.1	0.0	0.0
1987	6957.0	1490.7	8447.7	2814.6	5108.0	157.8	367.2	8447.7	-0.0	8513.6	0.0	0.0
1988	7006.3	1667.8	8674.1	3134.3	4961.4	154.8	423.6	8674.1	0.0	9664.3	0.0	0.0
1989	7698.8	1829.4	9528.2	3490.4	5406.3	146.5	485.0	9528.2	-0.0	10944.2	0.0	0.0
1990	7504.1	1971.8	9476.0	3886.9	4902.3	135.4	551.3	9476.0	0.0	12218.7	0.0	0.0
1991	7172.2	2060.4	9232.5	4328.5	4167.7	114.8	621.6	9232.5	0.0	13454.1	0.0	0.0
1992	7095.9	2127.7	9223.5	4820.2	3594.4	114.1	694.8	9223.5	-0.0	14730.3	0.0	0.0
1993	7219.3	2219.8	9439.1	5367.7	3269.2	31.7	770.5	9439.1	-0.0	16053.9	0.0	0.0
1994	7272.1	2326.5	9598.6	5977.5	2747.6	25.8	847.6	9598.6	0.0	17413.3	0.0	0.0
1995	6746.5	2392.0	9138.5	6656.6	1533.6	23.0	925.4	9138.5	0.0	18707.8	0.0	0.0
1996	6541.8	2439.4	8981.2	7412.7	896.7	21.5	1003.5	9334.5	-353.3	19993.6	0.0	353.3
1997	6984.4	2553.1	9537.5	8254.8	1001.7	16.7	1082.7	10355.8	-818.4	21377.2	0.0	818.4
1998	7159.9	2735.7	9895.6	9192.4	1110.8	14.4	1163.3	11480.1	-1593.5	22812.6	0.0	1593.5

STATE OF ALASKA
LEGISLATIVE FINANCE WORKING DOCUMENT
BUDGET FORECASTING MODEL
FY 1983 $

2

13-FEB-82

NO GASLINE
DEPT OF REVENUE ESTIMATES
FY82 LEVEL OF SERVICE BUDGETS
SURPLUS SPENT ON CAPITAL

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1982										4005.3	-693.4	
1983	3818.7	392.4	4211.0	1830.2	1421.8	113.2	152.5	3517.6	693.4	4771.9	0.0	0.0
1984	4248.0	616.4	4864.4	1869.8	2718.4	127.3	148.9	4864.4	0.0	5143.3	0.0	0.0
1985	4565.2	832.2	5397.4	1910.3	3154.2	137.9	195.1	5392.4	0.0	5475.1	0.0	0.0
1986	4707.8	967.0	5674.8	1951.7	3366.0	125.0	232.1	5674.8	0.0	5759.8	0.0	0.0
1987	4920.5	1056.1	5984.5	1993.9	3618.7	111.8	260.1	5984.5	-0.0	6031.2	0.0	0.0
1988	4553.6	1084.0	5637.6	2037.1	3224.5	100.6	275.3	5637.6	0.0	6281.1	0.0	0.0
1989	4590.5	1090.8	5681.4	2081.2	3223.6	87.4	289.2	5681.4	-0.0	6525.7	0.0	0.0
1990	4105.0	1078.7	5183.7	2126.3	2681.7	74.1	301.6	5183.7	0.0	6684.0	0.0	0.0
1991	3599.5	1034.0	4633.5	2172.3	2091.6	57.6	311.9	4633.5	0.0	6752.1	0.0	0.0
1992	3267.1	979.6	4246.8	2219.3	1655.0	52.5	319.9	4246.8	-0.0	6782.2	0.0	0.0
1993	3049.5	937.7	3987.2	2267.4	1380.9	13.4	325.5	3987.2	-0.0	6781.3	0.0	0.0
1994	2818.2	901.6	3719.8	2316.5	1064.8	10.0	328.5	3719.8	0.0	6748.2	0.0	0.0
1995	2398.6	850.5	3249.1	2366.6	545.2	8.2	329.0	3249.1	0.0	6651.3	0.0	0.0
1996	2133.8	795.7	2929.5	2417.9	292.5	7.0	327.3	3044.7	-115.2	6521.5	0.0	115.2
1997	2090.1	764.0	2854.1	2470.2	299.7	5.0	324.0	3099.0	-244.9	6397.1	0.0	244.9
1998	1965.7	751.0	2716.7	2523.7	307.2	4.0	319.4	3154.2	-437.5	6270.3	0.0	437.5

ASSUMPTIONS

	EXISTING DEBT SERVICE	NEW DEBT	SEVERANCE TAXES	PETROL INCOME TAX	PROPERTY TAX	OTHER REVENUE	ROYALTIES XX% TO PF	ROYALTIES 50% TO PF
1983	94.2	0.0	1,819.6	304.0	157.0	212.8	1,717.0	0.0
1984	91.3	0.0	2,214.1	360.0	225.0	222.4	2,145.1	0.0
1985	87.9	0.0	2,616.1	373.0	283.1	244.8	2,542.6	0.0
1986	86.0	0.0	2,970.9	400.0	304.2	269.5	2,869.6	0.0
1987	81.9	0.0	3,420.7	430.0	317.9	296.7	3,322.2	0.0
1988	78.9	0.0	3,179.9	460.0	317.9	326.7	3,629.1	0.0
1989	70.6	0.0	3,540.8	490.0	318.0	359.6	3,954.0	49.8
1990	59.5	0.0	3,386.2	520.0	318.0	395.9	3,793.3	78.1
1991	38.9	0.0	3,138.7	550.0	318.0	435.9	3,582.9	84.8
1992	38.2	0.0	3,061.4	580.0	305.0	429.9	3,389.4	255.0
1993	31.7	0.0	3,095.6	610.0	293.0	528.3	3,349.8	360.1
1994	25.8	0.0	3,092.8	640.0	281.0	581.6	3,260.1	463.2
1995	23.0	0.0	2,740.0	670.0	270.0	640.2	2,896.5	507.8
1996	21.5	0.0	2,572.1	700.0	259.0	704.9	2,670.0	606.6
1997	15.7	0.0	2,771.4	730.0	251.0	775.9	2,778.8	744.0
1998	14.4	0.0	2,799.9	730.0	238.0	854.3	2,803.6	870.0

ANNUAL RATE OF INTEREST ON GENERAL + PERMANENT FUNDS	=	0.120
ANNUAL RATE OF INTEREST ON NEW BONDS	=	0.100
MATURITY PERIOD ON NEW BONDS IN YEARS	=	10.000
% OF OPERATING BUDGET IN G.F. CASH BAL	=	0.200
% OF ROYALTIES TO PERMANENT FUND	=	0.250
OPERATING BUDGET GROWTH RATE	=	0.114
% OF PERMANENT FUND EARNINGS PAID AS DIVIDENDS	=	0.500
CAPITAL BUDGET GROWTH RATE	=	0.117
% OF GF ADDED TO CAPITAL BUDGET	=	1.000
INFLATION RATE	=	0.090
'1' IF PERMANENT FUND INCOME BASED ON 5 YEAR AVERAGE	=	1.000
PER CAPITA DIVIDEND	=	50.000
NUMBER OF PRIOR YEAR DIVIDEND RECIPIENTS	=	2.966
GROWTH RATE IN DIVIDEND RECIPIENTS	=	0.028

STATE OF ALASKA
LEGISLATIVE FINANCE WORKING DOCUMENT
BUDGET FORECASTING MODEL

3

15-FEB-82

NO GASLINE
DEPT OF REVENUE ESTIMATES
BUDGETS AT SPENDING LIMIT

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1982										4005.3	-693.4	
1983	3818.7	394.9	4213.5	1866.7	933.3	113.2	152.5	3065.6	1147.9	4771.9	454.5	0.0
1984	4630.3	708.1	5338.4	2092.6	1046.2	138.8	162.3	3439.9	1898.5	5606.2	2353.0	0.0
1985	5424.0	1157.4	6581.4	2345.8	1172.8	163.8	231.8	3914.2	2667.2	6505.0	5020.2	0.0
1986	6096.8	1682.8	7779.6	2629.6	1314.7	161.9	300.6	4406.8	3372.7	7459.1	8392.9	0.0
1987	6957.0	2305.8	9262.8	2947.8	1473.8	157.8	367.2	4946.7	4316.1	8513.6	12709.0	0.0
1988	7006.3	2976.3	9982.6	3304.5	1652.1	154.8	423.6	5535.1	4447.5	9664.3	17156.5	0.0
1989	7698.8	3715.2	11414.0	3704.3	1852.1	146.5	485.0	6187.9	5226.1	10944.2	22382.6	0.0
1990	7504.1	4507.1	12011.3	4152.5	2076.2	135.4	551.3	6915.4	5095.8	12218.7	27478.4	0.0
1991	7172.2	5282.4	12454.6	4655.0	2327.4	114.8	621.6	7718.8	4735.8	13454.1	32214.3	0.0
1992	7095.9	6033.0	13128.8	5218.3	2609.0	114.1	694.8	8636.2	4492.6	14730.3	36706.9	0.0
1993	7219.3	6775.3	13994.6	5849.7	2924.7	31.7	770.5	9576.5	4418.1	16053.9	41125.0	0.0
1994	7272.1	7501.7	14773.8	6557.5	3278.6	25.8	847.6	10709.5	4064.4	17413.3	45189.3	0.0
1995	6746.5	8147.1	14893.6	7350.9	3675.3	23.0	925.4	11974.6	2919.0	18707.8	48108.3	0.0
1996	6541.8	8667.4	15209.2	8240.4	4120.0	21.5	1003.5	13385.4	1823.8	19993.6	49932.1	0.0
1997	6984.4	9091.4	16075.8	9237.5	4618.5	16.7	1082.7	14955.3	1120.5	21377.2	51052.6	0.0
1998	7159.9	9411.3	16571.2	10355.2	5177.3	14.4	1163.3	16710.2	-139.0	22839.6	50913.6	0.0

STATE OF ALASKA
LEGISLATIVE FINANCE WORKING DOCUMENT
BUDGET FORECASTING MODEL
FY 1983 $

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15-FEB-82

NO GASLINE
DEPT OF REVENUE ESTIMATES
BUDGETS AT SPENDING LIMIT

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1982										4005.3	-693.4	
1983	3818.7	394.9	4213.5	1866.7	933.3	113.2	152.5	3065.6	1147.9	4771.9	454.5	0.0
1984	4248.0	649.6	4897.6	1919.8	959.8	127.3	148.9	3155.9	1741.7	5143.3	2158.7	0.0
1985	4565.2	974.2	5539.4	1974.4	987.1	137.9	195.1	3294.5	2244.9	5475.1	4225.4	0.0
1986	4707.8	1299.4	6007.2	2030.5	1015.2	125.0	232.1	3402.9	2604.4	5759.8	6480.8	0.0
1987	4928.5	1633.5	6562.0	2088.3	1044.1	111.8	260.1	3504.3	3057.6	6031.2	9003.4	0.0
1988	4553.6	1934.4	6488.0	2147.7	1073.8	100.6	275.3	3597.4	2890.6	6281.1	11150.6	0.0
1989	4590.5	2215.2	6805.8	2208.8	1104.3	87.4	289.2	3689.6	3116.1	6525.7	13346.0	0.0
1990	4105.0	2465.6	6570.6	2271.6	1135.7	74.1	301.6	3783.0	2787.6	6684.0	15031.6	0.0
1991	3599.5	2651.1	6250.5	2336.2	1168.0	57.6	311.9	3873.8	2376.8	6752.1	16167.3	0.0
1992	3267.1	2777.7	6044.9	2402.6	1201.2	52.5	319.9	3976.3	2068.5	6782.2	16900.9	0.0
1993	3049.5	2861.9	5911.5	2471.0	1235.4	13.4	325.5	4045.2	1866.2	6781.3	17371.6	0.0
1994	2818.2	2907.2	5725.3	2541.2	1270.5	10.0	328.5	4150.3	1575.1	6748.2	17512.3	0.0
1995	2398.6	2896.6	5295.2	2613.5	1306.7	8.2	329.0	4257.4	1037.8	6651.3	17104.2	0.0
1996	2133.8	2827.1	4960.9	2687.8	1343.8	7.0	327.3	4366.0	594.9	6521.5	16286.8	0.0
1997	2090.1	2720.6	4810.6	2764.3	1382.1	5.0	324.0	4475.3	335.3	6397.1	15277.3	0.0
1998	1965.7	2503.8	4549.4	2842.9	1421.4	4.0	319.4	4587.6	-38.2	6270.3	13977.7	0.0

ASSUMPTIONS

	EXISTING DEBT SERVICE	NEW DEBT	SEVERANCE TAXES	PETROL INCOME TAX	PROPERTY TAX	OTHER REVENUE	ROYALTIES X% TO PF	ROYALTIES 50% TO PF
1983	94.2	0.0	1,819.6	304.0	157.0	212.8	1,767.0	0.0
1984	91.3	0.0	2,214.1	360.0	225.0	222.4	2,145.1	0.0
1985	87.9	0.0	2,616.1	373.0	283.1	244.8	2,542.6	0.0
1986	86.0	0.0	2,970.9	400.0	304.2	269.5	2,869.6	0.0
1987	81.9	0.0	3,420.7	430.0	317.9	296.7	3,322.2	0.0
1988	78.9	0.0	3,179.9	460.0	317.9	326.7	3,629.1	0.0
1989	70.6	0.0	3,540.8	490.0	318.0	359.6	3,954.0	49.8
1990	59.5	0.0	3,386.2	520.0	318.0	395.9	3,793.3	78.1
1991	38.9	0.0	3,138.7	550.0	318.0	435.9	3,582.9	84.8
1992	38.2	0.0	3,061.4	580.0	305.0	479.9	3,389.4	255.0
1993	31.7	0.0	3,095.6	610.0	293.0	528.3	3,349.8	360.1
1994	25.8	0.0	3,092.8	640.0	281.0	581.6	3,260.1	463.2
1995	23.0	0.0	2,740.0	670.0	270.0	640.2	2,896.5	507.8
1996	21.5	0.0	2,572.1	700.0	259.0	704.9	2,670.0	606.6
1997	16.7	0.0	2,771.4	730.0	251.0	775.9	2,778.8	744.0
1998	14.4	0.0	2,799.9	730.0	238.0	854.3	2,803.6	870.0

ANNUAL RATE OF INTEREST ON GENERAL + PERMANENT FUNDS	=	0.120
ANNUAL RATE OF INTEREST ON NEW BONDS	=	0.100
MATURITY PERIOD ON NEW BONDS IN YEARS	=	10.000
% OF OPERATING BUDGET IN G.F. CASH BAL	=	0.200
% OF ROYALTIES TO PERMANENT FUND	=	0.250
OPERATING BUDGET GROWTH RATE	=	0.121
% OF PERMANENT FUND EARNINGS PAID AS DIVIDENDS	=	0.500
CAPITAL BUDGET GROWTH RATE	=	0.121
INFLATION RATE	=	0.090
'1' IF PERMANENT FUND INCOME BASED ON 5 YEAR AVERAGE	=	1.000
PER CAPITA DIVIDEND	=	50.000
NUMBER OF PRIOR YEAR DIVIDEND RECIPIENTS	=	2.966
GROWTH RATE IN DIVIDEND RECIPIENTS	=	0.020

STATE OF ALASKA
LEGISLATIVE FINANCE WORKING DOCUMENT
BUDGET FORECASTING MODEL

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NO GASLINE
DEPT OF REVENUE ESTIMATES
BUDGETS AT SPENDING LIMIT
SURPLUS SPENT ON CAPITAL

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1982										4005.3	-693.4	
1983	3818.7	391.3	4209.9	1866.7	1384.2	113.2	152.5	3516.5	693.4	4771.9	0.0	0.0
1984	4630.3	667.6	5297.9	2092.6	2904.3	138.8	162.3	5297.9	-0.0	5606.2	0.0	0.0
1985	5424.0	981.4	6405.3	2345.8	3664.0	163.8	231.8	6405.3	0.0	6505.0	0.0	0.0
1986	6096.8	1241.8	7338.6	2629.6	4246.6	161.9	300.6	7338.6	0.0	7459.1	0.0	0.0
1987	6957.0	1476.7	8433.7	2947.8	4960.8	157.8	367.2	8433.7	0.0	8513.6	0.0	0.0
1988	7006.3	1649.5	8655.9	3304.5	4772.9	154.8	423.6	8655.9	0.0	9664.3	0.0	0.0
1989	7698.8	1806.1	9504.9	3704.3	5169.0	146.5	485.0	9504.9	0.0	10944.2	0.0	0.0
1990	7504.1	1942.5	9446.6	4152.5	4607.3	135.4	551.3	9446.6	-0.0	12218.7	0.0	0.0
1991	7172.2	2023.9	9196.1	4655.0	3804.7	114.8	621.6	9196.1	0.0	13454.1	0.0	0.0
1992	7095.9	2082.8	9178.7	5218.3	3151.5	114.1	694.8	9178.7	-0.0	14730.3	0.0	0.0
1993	7219.3	2175.2	9394.5	5849.7	2924.7	31.7	770.5	9576.5	-182.0	16053.9	0.0	182.0
1994	7272.1	2335.1	9607.2	6557.5	3278.6	25.8	847.6	10709.5	-1102.3	17413.3	0.0	1102.3
1995	6746.5	2549.2	9295.7	7350.9	3675.3	23.0	925.4	11974.6	-2678.9	18707.8	0.0	2678.9
1996	6541.8	2785.0	9326.8	8240.4	4120.0	21.5	1003.5	13385.4	-4058.6	19993.6	0.0	4058.6
1997	6984.4	3032.3	10016.7	9237.5	4618.5	16.7	1082.7	14955.3	-4938.6	21377.2	0.0	4938.6
1998	7159.9	3293.3	10453.2	10355.2	5177.3	14.4	1163.3	16710.2	-6257.0	22839.6	0.0	6257.0

STATE OF ALASKA
LEGISLATIVE FINANCE WORKING DOCUMENT
BUDGET FORECASTING MODEL
FY 1983 $

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15-FEB-82

NO GASLINE
DEPT OF REVENUE ESTIMATES
BUDGETS AT SPENDING LIMIT
SURPLUS SPENT ON CAPITAL

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1982										4005.3	-693.4	
1983	3818.7	391.3	4209.9	1866.7	1384.2	113.2	152.5	3516.5	693.4	4771.9	0.0	0.0
1984	4248.0	612.5	4860.5	1919.8	2664.5	127.3	148.9	4860.5	-0.0	5143.3	0.0	0.0
1985	4565.2	826.0	5391.2	1974.4	3083.9	137.9	195.1	5391.2	0.0	5475.1	0.0	0.0
1986	4707.8	958.9	5666.8	2030.5	3279.1	125.0	232.1	5666.8	0.0	5759.8	0.0	0.0
1987	4928.5	1046.1	5974.6	2088.3	3514.4	111.8	260.1	5974.6	0.0	6031.2	0.0	0.0
1988	4553.6	1072.1	5625.7	2147.7	3102.1	100.6	275.3	5625.7	0.0	6281.1	0.0	0.0
1989	4590.5	1076.9	5667.5	2208.8	3082.1	87.4	289.2	5667.5	0.0	6525.7	0.0	0.0
1990	4105.0	1062.6	5167.6	2271.6	2520.4	74.1	301.6	5167.6	-0.0	6684.0	0.0	0.0
1991	3529.5	1015.7	4615.2	2336.2	1909.4	57.6	311.9	4615.2	0.0	6752.1	0.0	0.0
1992	3267.1	959.0	4226.1	2402.6	1451.0	52.5	319.9	4226.1	-0.0	6782.2	0.0	0.0
1993	3049.5	918.8	3968.3	2471.0	1235.4	13.4	325.5	4045.2	-76.9	6781.3	0.0	76.9
1994	2818.2	904.9	3723.1	2541.2	1270.5	10.0	328.5	4150.3	-427.2	6748.2	0.0	427.2
1995	2398.6	906.3	3304.9	2613.5	1306.7	8.2	329.0	4257.4	-952.4	6651.3	0.0	952.4
1996	2133.8	908.4	3042.2	2687.8	1343.8	7.0	327.3	4366.0	-1323.8	6521.5	0.0	1323.8
1997	2090.1	907.4	2997.5	2764.3	1382.1	5.0	324.0	4475.3	-1477.9	6397.1	0.0	1477.9
1998	1965.7	904.1	2869.8	2842.9	1421.4	4.0	319.4	4587.6	-1717.8	6270.3	0.0	1717.8

ASSUMPTIONS

	EXISTING DEBT SERVICE	NEW DEBT	SEVERANCE TAXES	PETROL INCOME TAX	PROPERTY TAX	OTHER REVENUE	ROYALTIES XX TO PF	ROYALTIES 50% TO PF
1983	94.2	0.0	1,819.6	304.0	157.0	212.5	1,767.0	0.0
1984	91.3	0.0	2,214.1	360.0	225.0	222.4	2,145.1	0.0
1985	87.9	0.0	2,616.1	373.0	283.1	244.8	2,542.6	0.0
1986	86.0	0.0	2,970.9	400.0	304.2	269.5	2,869.6	0.0
1987	81.7	0.0	3,420.7	420.0	317.9	296.7	3,322.2	0.0
1988	78.9	0.0	3,179.9	460.0	317.9	326.7	3,629.1	0.0
1989	70.6	0.0	3,540.8	490.0	318.0	359.6	3,954.0	49.8
1990	59.5	0.0	3,386.2	520.0	318.0	395.9	3,793.3	78.1
1991	38.9	0.0	3,138.7	550.0	318.0	435.9	3,582.9	84.8
1992	38.2	0.0	3,061.4	580.0	305.0	479.9	3,389.4	255.0
1993	31.7	0.0	3,095.6	610.0	293.0	528.3	3,349.8	360.1
1994	25.8	0.0	3,092.8	640.0	281.0	581.6	3,280.1	463.2
1995	23.0	0.0	2,740.0	670.0	270.0	640.2	2,896.5	607.8
1996	21.5	0.0	2,572.1	700.0	259.0	704.9	2,670.0	606.6
1997	16.7	0.0	2,771.4	730.0	251.0	775.9	2,778.8	744.0
1998	14.4	0.0	2,799.9	730.0	238.0	854.3	2,803.6	870.0

ANNUAL RATE OF INTEREST ON GENERAL & PERMANENT FUNDS	=	0.120
ANNUAL RATE OF INTEREST ON NEW BONDS	=	0.100
MATURITY PERIOD ON NEW BONDS IN YEARS	=	10.000
% OF OPERATING BUDGET IN G.F. CASH BAL	=	0.200
% OF ROYALTIES TO PERMANENT FUND	=	0.250
OPERATING BUDGET GROWTH RATE	=	0.121
% OF PERMANENT FUND EARNINGS PAID AS DIVIDENDS	=	0.500
CAPITAL BUDGET GROWTH RATE	=	0.121
% OF GF ADDED TO CAPITAL BUDGET	=	1.000
INFLATION RATE	=	0.090
'1' IF PERMANENT FUND INCOME BASED ON 5 YEAR AVERAGE	=	1.000
PER CAPITA DIVIDEND	=	50.000
NUMBER OF PRIOR YEAR DIVIDEND RECIPIENTS	=	2.966
GROWTH RATE IN DIVIDEND RECIPIENTS	=	0.020

STATE OF ALASKA
LEGISLATIVE FINANCE WORKING DOCUMENT
BUDGET FORECASTING MODEL

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GASLINE DEC 198?-LOW INFLATION
DEPT OF REVENUE ESTIMATES
FY82 LEVEL OF SERVICE BUDGETS

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1982										4005.3	-693.4	
1983	3837.2	400.6	4237.7	1860.6	194.6	113.2	152.5	2320.9	1916.8	4771.9	1223.4	0.0
1984	4679.0	760.3	5439.3	2141.4	240.7	138.8	162.3	2683.2	2756.2	5606.2	3979.6	0.0
1985	5593.5	1302.6	6896.0	2473.9	277.9	163.8	231.8	3147.4	3748.6	6505.0	7728.2	0.0
1986	6419.2	1968.4	8387.6	2764.1	300.0	161.9	300.6	3534.6	4853.0	7459.1	12581.2	0.0
1987	7771.5	2802.2	10573.6	3055.2	533.3	157.8	367.2	4113.5	6460.1	8513.6	19041.3	0.0
1988	7768.7	3751.6	11520.3	3308.1	390.6	154.8	423.6	4277.2	7243.2	9664.3	26284.4	0.0
1989	8420.5	4825.5	13246.0	3684.0	436.3	146.5	485.0	4751.8	8494.2	10944.2	34778.6	0.0
1990	8256.7	6020.5	14277.2	4102.5	487.4	135.4	551.4	5276.7	9000.6	12230.6	43779.2	0.0
1991	8093.4	7292.8	15386.1	4568.5	544.4	114.8	622.1	5849.8	9536.4	13514.2	53315.6	0.0
1992	8192.2	8655.3	16847.4	5087.5	608.1	114.1	696.6	6506.3	10341.1	14879.6	63656.7	0.0
1993	8451.6	10141.8	18593.4	5665.4	679.2	31.7	774.8	7151.1	11442.3	16329.9	75099.0	0.0
1994	8518.3	11756.4	20274.6	6309.0	758.7	25.8	856.1	7949.6	12325.0	17832.4	87424.1	0.0
1995	8008.8	13449.4	21458.2	7025.7	847.5	23.0	939.8	8836.0	12622.2	19285.7	100046.3	0.0
1996	7813.0	15202.1	23015.1	7823.8	946.6	21.5	1025.5	9817.4	13197.7	20745.7	113244.0	0.0
1997	8279.3	17073.1	25352.4	8712.6	1057.4	16.7	1113.6	10900.3	14452.1	22326.0	127696.1	0.0
1998	8463.5	19088.5	27552.0	9702.4	1181.1	14.4	1204.2	12102.1	15449.9	23993.5	143146.0	0.0

STATE OF ALASKA
LEGISLATIVE FINANCE WORKING DOCUMENT
BUDGET FORECASTING MODEL
FY 1983 $

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15-FEB-82

GASLINE DEC 1986-LOW INFLATION
DEPT OF REVENUE ESTIMATES
FY82 LEVEL OF SERVICE BUDGETS

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1982										4005.3	-693.4	
1983	3837.2	400.6	4237.7	1860.6	194.6	113.2	152.5	2320.9	1916.8	4771.9	1223.4	0.0
1984	4292.7	697.5	4990.2	1964.6	220.8	127.3	148.9	2461.6	2528.6	5143.3	3651.0	0.0
1985	4707.9	1096.4	5804.3	2082.3	233.9	137.9	195.1	2649.1	3155.1	5475.1	6504.7	0.0
1986	4956.8	1519.9	6476.7	2134.4	237.8	125.0	232.1	2729.4	3747.4	5759.8	9715.0	0.0
1987	5505.5	1985.1	7490.6	2164.4	377.8	111.8	260.1	2914.1	4576.5	6031.2	13489.3	0.0
1988	5049.1	2438.3	7487.4	2150.1	253.9	100.6	275.3	2779.9	4707.6	6281.1	17083.1	0.0
1989	5020.9	2877.3	7898.1	2196.6	260.2	87.4	289.2	2833.3	5064.8	6525.7	20737.4	0.0
1990	4516.7	3293.4	7810.1	2244.2	266.6	74.1	301.6	2886.5	4923.6	6690.6	23948.7	0.0
1991	4061.8	3660.0	7721.8	2292.8	273.2	57.6	312.2	2933.8	4786.0	6782.3	26757.3	0.0
1992	3771.9	3985.1	7757.0	2342.4	280.0	52.5	320.7	2995.7	4761.3	6851.0	29309.3	0.0
1993	3570.0	4284.0	7854.1	2393.1	286.9	13.4	327.3	3020.7	4833.4	6897.9	31722.6	0.0
1994	3301.1	4556.0	7857.1	2444.9	294.0	10.0	331.6	3080.7	4776.4	6910.6	33879.7	0.0
1995	2847.4	4781.7	7629.1	2497.9	301.3	8.2	334.1	3141.5	4487.6	6856.7	35569.9	0.0
1996	2548.4	4958.6	7507.0	2552.0	308.8	7.0	334.5	3202.2	4304.8	6766.8	36937.8	0.0
1997	2477.5	5109.1	7586.6	2607.2	316.4	5.0	333.2	3261.9	4324.7	6681.0	38212.6	0.0
1998	2323.6	5240.5	7564.1	2663.7	324.3	4.0	330.6	3322.5	4241.6	6587.1	39299.0	0.0

ASSUMPTIONS

	EXISTING DEBT SERVICE	NEW DEBT	SEVERANCE TAXES	PETROL INCOME TAX	PROPERTY TAX	OTHER REVENUE	ROYALTIES X% TO PF	ROYALTIES 50% TO PF
1983	94.2	0.0	1,819.6	304.0	169.0	219.3	1,767.0	0.0
1984	91.3	0.0	2,214.1	360.0	256.0	240.1	2,145.1	0.0
1985	87.9	0.0	2,616.1	373.0	399.0	298.4	2,542.6	0.0
1986	86.0	0.0	2,970.9	400.0	543.2	352.9	2,869.6	0.0
1987	81.9	0.0	3,420.7	641.5	857.9	359.7	3,322.2	0.0
1988	78.9	0.0	3,179.9	663.0	836.3	367.7	3,629.1	0.0
1989	70.6	0.0	3,540.8	684.6	814.8	389.9	3,954.0	49.8
1990	59.5	0.0	3,421.2	706.1	793.2	418.2	3,838.6	78.1
1991	38.9	0.0	3,256.9	747.3	771.6	453.3	3,762.5	84.8
1992	38.2	0.0	3,257.3	792.3	737.0	495.4	3,710.2	235.0
1993	31.7	0.0	3,348.7	833.7	703.4	544.0	3,789.0	360.1
1994	25.8	0.0	3,357.0	861.2	669.8	598.6	3,733.4	463.2
1995	23.0	0.0	3,014.3	889.3	637.2	658.5	3,407.5	507.8
1996	21.5	0.0	2,844.4	918.6	604.6	724.8	3,223.0	606.6
1997	16.7	0.0	3,033.1	948.2	575.0	797.5	3,404.5	744.0
1998	14.4	0.0	3,076.6	948.1	540.4	878.0	3,447.2	870.0

ANNUAL RATE OF INTEREST ON GENERAL + PERMANENT FUNDS	=	0.120
ANNUAL RATE OF INTEREST ON NEW BONDS	=	0.100
MATURITY PERIOD ON NEW BONDS IN YEARS	=	10.000
% OF OPERATING BUDGET IN G.F. CASH BAL.	=	0.200
% OF ROYALTIES TO PERMANENT FUND	=	0.250
% OF PERMANENT FUND EARNINGS PAID AS DIVIDENDS	=	0.500
INFLATION RATE	=	0.090
'1' IF PERMANENT FUND INCOME BASED ON 5 YEAR AVERAGE	=	1.000
PER CAPITA DIVIDEND	=	50.000
NUMBER OF PRIOR YEAR DIVIDEND RECIPIENTS	=	2.966
GROWTH RATE IN DIVIDEND RECIPIENTS	=	0.028

STATE OF ALASKA
LEGISLATIVE FINANCE WORKING DOCUMENT
BUDGET FORECASTING MODEL

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GASLINE DEC 1986-LOW INFLATION
DEPT OF REVENUE ESTIMATES
FY82 LEVEL OF SERVICE BUDGETS
SURPLUS SPENT ON CAPITAL

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1982										4005.3	-693.4	
1983	3837.2	390.9	4228.0	1860.6	1408.3	113.2	152.5	3534.6	693.4	4771.9	0.0	0.0
1984	4679.0	670.0	5349.0	2141.4	2906.6	138.8	162.3	5349.0	0.0	5606.2	0.0	0.0
1985	5593.5	987.7	6581.1	2473.9	3711.6	163.8	231.8	6581.1	0.0	6505.0	0.0	0.0
1986	6419.2	1259.1	7678.3	2764.1	4451.7	161.9	300.6	7678.3	0.0	7459.1	0.0	0.0
1987	7771.5	1534.4	9305.8	3055.2	5725.6	157.8	367.2	9305.8	0.0	8513.6	0.0	0.0
1988	7768.7	1751.0	9519.8	3308.1	5633.2	154.8	423.6	9519.8	0.0	9664.3	0.0	0.0
1989	8420.5	1926.1	10346.6	3684.0	6031.1	146.5	485.0	10346.6	0.0	10944.2	0.0	0.0
1990	8256.7	2067.7	10324.4	4102.5	5535.1	135.4	551.4	10324.4	0.0	12230.6	0.0	0.0
1991	8093.4	2165.1	10258.5	4568.5	4953.1	114.8	622.1	10258.5	0.0	13514.2	0.0	0.0
1992	8192.2	2255.0	10447.1	5087.5	4549.0	114.1	696.6	10447.1	0.0	14879.6	0.0	0.0
1993	8451.6	2374.7	10826.3	5665.4	4354.4	31.7	774.8	10826.3	0.0	16329.9	0.0	0.0
1994	8518.3	2503.0	11021.3	6309.0	3830.3	25.8	856.1	11021.3	0.0	17832.4	0.0	0.0
1995	8008.8	2583.4	10592.2	7025.7	2603.7	23.0	939.8	10592.2	0.0	19285.7	0.0	0.0
1996	7813.0	2625.0	10437.9	7823.8	1567.1	21.5	1025.5	10437.9	0.0	20745.7	0.0	0.0
1997	8279.3	2702.4	10981.6	8712.6	1138.8	16.7	1113.6	10981.6	-0.0	22326.0	0.0	0.0
1998	8463.5	2857.4	11320.9	9702.4	1181.1	14.4	1204.2	12102.1	-781.1	23993.5	0.0	781.1

STATE OF ALASKA
LEGISLATIVE FINANCE WORKING DOCUMENT
BUDGET FORECASTING MODEL
FY 1983 $

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GASLINE DEC 1986-LOW INFLATION
DEPT OF REVENUE ESTIMATES
FY82 LEVEL OF SERVICE BUDGETS
SURPLUS SPENT ON CAPITAL

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1982										4005.3	-693.4	
1983	3837.2	390.9	4228.0	1860.6	1408.3	113.2	152.5	3534.6	693.4	4771.9	0.0	0.0
1984	4292.7	614.7	4907.4	1964.6	2666.6	127.3	148.9	4907.4	0.0	5143.3	0.0	0.0
1985	4707.9	831.3	5539.2	2082.3	3124.0	137.9	195.1	5539.2	0.0	5475.1	0.0	0.0
1986	4956.8	972.3	5929.1	2134.4	3437.5	125.0	232.1	5929.1	0.0	5759.8	0.0	0.0
1987	5505.5	1087.0	6592.5	2164.4	4056.2	111.8	260.1	6592.5	0.0	6031.2	0.0	0.0
1988	5049.1	1138.0	6187.2	2150.1	3661.2	100.6	275.3	6187.2	0.0	6281.1	0.0	0.0
1989	5020.9	1148.5	6169.4	2196.6	3596.2	87.4	289.2	6169.4	0.0	6525.7	0.0	0.0
1990	4516.7	1131.1	5647.8	2244.2	3027.9	74.1	301.6	5647.8	0.0	6690.6	0.0	0.0
1991	4061.8	1086.6	5148.4	2292.8	2485.8	57.6	312.2	5148.4	0.0	6782.3	0.0	0.0
1992	3771.9	1038.3	4810.2	2342.4	2094.5	52.5	320.7	4810.2	0.0	6851.0	0.0	0.0
1993	3570.0	1003.1	4573.1	2393.1	1839.3	13.4	327.3	4573.1	0.0	6897.9	0.0	0.0
1994	3301.1	970.0	4271.1	2444.9	1484.4	10.0	331.8	4271.1	0.0	6910.6	0.0	0.0
1995	2847.4	918.5	3765.9	2497.9	925.7	8.2	334.1	3765.9	0.0	6856.7	0.0	0.0
1996	2548.4	856.2	3404.6	2552.0	511.2	7.0	334.5	3404.6	0.0	6766.8	0.0	0.0
1997	2477.5	808.7	3286.2	2607.2	340.8	5.0	333.2	3286.2	-0.0	6681.0	0.0	0.0
1998	2323.6	784.5	3108.0	2663.7	324.3	4.0	330.6	3322.5	-214.5	6507.1	0.0	214.5

ASSUMPTIONS

	EXISTING DEBT SERVICE	NEW DEBT	SEVERANCE TAXES	PETROL INCOME TAX	PROPERTY TAX	OTHER REVENUE	ROYALTIES X% TO PF	ROYALTIES 50% TO PF
1983	94.2	0.0	1,819.6	304.0	169.0	219.3	1,767.0	0.0
1984	91.3	0.0	2,214.1	360.0	256.0	240.1	2,145.1	0.0
1985	87.9	0.0	2,616.1	373.0	399.0	298.4	2,542.6	0.0
1986	86.0	0.0	2,970.9	400.0	543.2	352.9	2,869.6	0.0
1987	81.9	0.0	3,420.7	641.5	857.9	359.7	3,322.2	0.0
1988	78.9	0.0	3,179.9	663.0	836.3	367.7	3,629.1	0.0
1989	70.6	0.0	3,540.8	684.6	814.8	389.9	3,954.0	49.8
1990	59.5	0.0	3,421.2	706.1	793.2	418.2	3,838.6	78.1
1991	38.9	0.0	3,256.9	747.3	771.6	453.3	3,762.5	84.8
1992	38.2	0.0	3,257.3	792.3	737.0	495.4	3,710.2	255.0
1993	31.7	0.0	3,348.7	833.7	703.4	544.0	3,789.0	360.1
1994	25.8	0.0	3,357.0	861.2	669.8	598.6	3,733.4	463.2
1995	23.0	0.0	3,014.3	889.3	637.2	658.5	3,407.5	507.8
1996	21.5	0.0	2,844.4	918.6	604.6	724.8	3,223.0	606.6
1997	16.7	0.0	3,033.1	948.2	575.0	797.6	3,404.5	744.0
1998	14.4	0.0	3,076.6	948.1	540.4	878.0	3,447.2	870.0

ANNUAL RATE OF INTEREST ON GENERAL + PERMANENT FUNDS	=	0.120
ANNUAL RATE OF INTEREST ON NEW BONDS	=	0.100
MATURITY PERIOD ON NEW BONDS IN YEARS	=	10.000
% OF OPERATING BUDGET IN G.F. CASH BAL	=	0.200
% OF ROYALTIES TO PERMANENT FUND	=	0.250
% OF PERMANENT FUND EARNINGS PAID AS DIVIDENDS	=	0.500
% OF GF ADDED TO CAPITAL BUDGET	=	1.000
INFLATION RATE	=	0.090
'1' IF PERMANENT FUND INCOME BASED ON 5 YEAR AVERAGE	=	1.000
PER CAPITA DIVIDEND	=	50.000
NUMBER OF PRIOR YEAR DIVIDEND RECIPIENTS	=	2.966
GROWTH RATE IN DIVIDEND RECIPIENTS	=	0.020

STATE OF ALASKA
LEGISLATIVE FINANCE WORKING DOCUMENT
BUDGET FORECASTING MODEL

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GASLINE DEC 1986-LOW INFLATION
DEPT OF REVENUE ESTIMATES
BUDGETS AT SPENDING LIMIT

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1982										4005.3	-693.4	
1983	3837.2	439.0	4276.2	1904.4	952.1	113.2	152.5	3122.2	1154.0	4771.9	460.6	0.0
1984	4679.0	722.4	5401.4	2229.4	1114.7	138.8	162.3	3645.2	1756.2	5606.2	2216.8	0.0
1985	5593.5	1144.4	6737.9	2624.5	1312.2	163.8	231.8	4332.3	2405.6	6505.0	4622.4	0.0
1986	6419.2	1651.0	8070.2	2940.8	1470.3	161.9	300.6	4873.5	3196.7	7459.1	7819.1	0.0
1987	7771.5	2286.6	10058.1	3241.9	1620.8	157.8	367.2	5387.8	4670.3	8513.6	12489.3	0.0
1988	7768.7	3003.6	10772.3	3484.4	1742.1	154.8	423.6	5804.9	4967.4	9664.3	17456.7	0.0
1989	8420.5	3801.0	12221.5	3906.0	1952.9	146.5	485.0	6490.4	5731.1	10944.2	23187.8	0.0
1990	8256.7	4658.0	12914.7	4378.6	2189.2	135.4	551.4	7254.6	5660.0	12230.6	28847.9	0.0
1991	8093.4	5516.9	13610.3	4908.4	2454.1	114.8	622.1	8099.4	5510.9	13514.2	34358.8	0.0
1992	8192.2	6380.1	14572.3	5502.4	2751.0	114.1	696.6	9064.1	5508.2	14879.6	39867.0	0.0
1993	8451.6	7266.0	15717.6	6168.1	3083.9	31.7	774.8	10058.5	5659.1	16329.9	45526.0	0.0
1994	8518.3	8160.	16678.6	6914.5	3457.0	25.8	856.1	11253.4	5425.2	17832.4	50951.2	0.0
1995	8008.8	8992.6	17001.5	7751.1	3875.3	23.0	939.8	12589.2	4412.2	19285.7	5[illegible]363.4	0.0
1996	7813.0	9719.7	17532.7	8689.0	4344.3	21.5	1025.5	14080.3	3452.4	20745.7	[illegible]15.8	0.0
1997	8279.3	10371.5	18650.8	9740.4	4869.9	16.7	1113.6	15740.6	2910.2	22326.0	[illegible].1	0.0
1998	8463.5	10941.2	19404.7	10919.0	5459.2	14.4	1204.2	17596.8	1807.9	23993.5	6[illegible]9	0.0

STATE OF ALASKA
LEGISLATIVE FINANCE WORKING DOCUMENT
BUDGET FORECASTING MODEL
FY 1983 $

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GASLINE DEC 1986-LOW INFLATION
DEPT OF REVENUE ESTIMATES
BUDGETS AT SPENDING LIMIT

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1982										4005.3	-693.4	
1983	3837.2	439.0	4276.2	1904.4	952.1	113.2	153.5	3123.2	1154.0	4771.9	460.6	0.0
1984	4292.7	662.7	4955.4	2045.4	1022.6	127.3	148.9	3344.2	1611.2	5143.3	2033.7	0.0
1985	4707.9	963.2	5671.1	2209.0	1104.4	137.9	195.1	3646.4	2024.8	5475.1	3390.5	0.0
1986	4956.8	1274.9	6231.7	2270.8	1135.3	125.0	232.1	3763.3	2468.4	5759.8	6037.7	0.0
1987	5505.5	1619.9	7125.4	2296.6	1148.3	111.8	260.1	3816.8	3308.5	6031.2	8847.8	0.0
1988	5049.1	1952.1	7001.3	2264.6	1132.2	100.6	275.3	3772.8	3228.5	6281.1	11345.7	0.0
1989	5020.9	2266.4	7287.3	2329.0	1164.4	87.4	289.2	3870.0	3417.3	6525.7	13825.2	0.0
1990	4516.7	2548.1	7064.8	2395.3	1197.6	74.1	301.6	3968.5	3096.2	6690.6	15780.9	0.0
1991	4061.8	2768.7	6830.5	2463.4	1231.6	57.6	312.2	4064.8	2765.7	6782.3	17243.5	0.0
1992	3771.9	2937.6	6709.5	2533.4	1266.6	52.5	320.7	4173.4	2536.1	6851.0	18355.9	0.0
1993	3570.0	3069.2	6639.3	2605.5	1302.7	13.4	327.3	4248.8	2390.5	6897.9	19230.7	0.0
1994	3301.1	3162.4	6463.5	2679.6	1339.7	10.0	331.8	4361.1	2102.4	6910.6	19745.3	0.0
1995	2847.4	3197.2	6044.6	2755.8	1377.8	8.2	334.1	4475.9	1568.7	6856.7	17683.6	0.0
1996	2548.4	3170.4	5718.8	2834.2	1417.0	7.0	334.5	4592.7	1126.1	6766.8	19184.5	0.0
1997	2477.5	3103.6	5581.2	2914.8	1457.3	5.0	333.2	4710.3	870.9	6681.0	18471.3	0.0
1998	2323.6	3003.8	5327.3	2997.7	1498.7	4.0	330.6	4831.0	496.3	6587.1	17442.5	0.0

ASSUMPTIONS

	EXISTING DEBT SERVICE	NEW DEBT	SEVERANCE TAXES	PETROL INCOME TAX	PROPERTY TAX	OTHER REVENUE	ROYALTIES X% TO PF	ROYALTIES 50% TO PF
1983	94.2	0.0	1,819.6	304.0	169.0	219.3	1,747.0	0.0
1984	91.3	0.0	2,214.1	360.0	256.0	240.1	2,145.1	0.0
1985	87.9	0.0	2,616.1	373.0	399.0	298.4	2,542.6	0.0
1986	86.0	0.0	2,970.9	400.0	543.2	352.9	2,869.6	0.0
1987	81.9	0.0	3,420.7	641.5	857.9	359.7	3,322.2	0.0
1988	78.9	0.0	3,179.9	663.0	836.3	367.7	3,629.1	0.0
1989	70.6	0.0	3,540.8	684.6	814.8	389.9	3,954.0	49.8
1990	59.5	0.0	3,421.2	706.1	793.2	418.2	3,838.6	78.1
1991	38.9	0.0	3,256.9	747.3	771.6	453.3	3,762.5	84.8
1992	38.2	0.0	3,257.3	792.3	737.0	495.4	3,710.2	255.0
1993	31.7	0.0	3,348.7	833.7	703.4	544.0	3,789.0	360.1
1994	25.8	0.0	3,357.0	861.2	669.8	598.6	3,733.4	463.2
1995	23.0	0.0	3,014.3	889.3	637.2	658.5	3,407.5	507.8
1996	21.5	0.0	2,844.4	918.6	604.6	724.8	3,223.0	606.6
1997	16.7	0.0	3,033.1	948.2	575.0	797.6	3,404.5	744.0
1998	14.4	0.0	3,076.6	948.1	540.4	878.0	3,447.2	870.0

ANNUAL RATE OF INTEREST ON GENERAL + PERMANENT FUNDS	=	0.120
ANNUAL RATE OF INTEREST ON NEW BONDS	=	0.10[illegible]
MATURITY PERIOD ON NEW BONDS IN YEARS	=	10.000
% OF OPERATING BUDGET IN G.F. CASH BAL	=	0.200
% OF ROYALTIES TO PERMANENT FUND	=	0.250
% OF PERMANENT FUND EARNINGS PAID AS DIVIDENDS	=	0.500
INFLATION RATE	=	0.090
'1' IF PERMANENT FUND INCOME BASED ON 5 YEAR AVERAGE	=	1.000
PER CAPITA DIVIDEND	=	50.000
NUMBER OF PRIOR YEAR DIVIDEND RECIPIENTS	=	2.966
GROWTH RATE IN DIVIDEND RECIPIENTS	=	0.028

STATE OF ALASKA
LEGISLATIVE FINANCE WORKING DOCUMENT
BUDGET FORECASTING MODEL

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GASLINE DEC 1986-LOW INFLATION
DEPT OF REVENUE ESTIMATES
BUDGETS AT SPENDING LIMIT
SURPLUS SPENT ON CAPITAL

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL.
1982										4005.3	-693.4	
1983	3837.2	435.4	4272.5	1904.4	1409.0	113.2	152.5	3579.1	693.4	4771.9	0.0	0.0
1984	4679.0	682.7	5361.7	2229.4	2831.2	138.8	162.3	5361.7	0.0	5606.2	0.0	0.0
1985	5593.5	977.8	6571.2	2624.5	3551.1	163.8	231.8	6571.2	0.0	6505.0	0.0	0.0
1986	6419.2	1240.6	7659.8	2940.8	4256.5	161.9	300.6	7659.8	0.0	7459.1	0.0	0.0
1987	7771.5	1511.0	9282.5	3241.9	5515.5	157.8	367.2	9282.5	0.0	8513.6	0.0	0.0
1988	7768.7	1726.1	9494.9	3484.4	5432.0	154.8	423.6	9494.9	0.0	9664.3	0.0	0.0
1989	8420.5	1900.1	10320.6	3906.0	5783.1	146.5	485.0	10320.6	-0.0	10944.2	0.0	0.0
1990	8256.7	2036.9	10293.6	4378.6	5228.2	135.4	551.4	10293.6	0.0	12230.6	0.0	0.0
1991	8093.4	2127.2	10220.5	4908.4	4575.2	114.8	622.1	10220.5	0.0	13514.2	0.0	0.0
1992	8192.2	2208.3	10400.5	5502.4	4087.4	114.1	696.6	10400.5	-0.0	14879.6	0.0	0.0
1993	8451.6	2317.7	10769.3	6168.1	3794.6	31.7	774.8	10769.3	0.0	16329.9	0.0	0.0
1994	8518.3	2449.8	10968.0	6914.5	3457.0	25.8	856.1	11253.4	-285.4	17832.4	0.0	285.4
1995	8008.8	2629.8	10638.6	7751.1	3875.3	23.0	939.8	12589.2	-1950.7	19285.7	0.0	1950.7
1996	7813.0	2869.0	10681.9	8689.0	4344.3	21.5	1025.5	14080.3	-3398.4	20745.7	0.0	3398.4
1997	8279.3	3139.0	11418.3	9740.4	4869.9	16.7	1113.6	15740.6	-4322.3	22326.0	-0.0	4322.3
1998	8463.5	3425.6	11889.1	10919.0	5459.2	14.4	1204.2	17596.8	-5707.7	23993.5	0.0	5707.7

STATE OF ALASKA
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BUDGET FORECASTING MODEL
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GASLINE DEC 1986-LOW INFLATION
DEPT OF REVENUE ESTIMATES
BUDGETS AT SPENDING LIMIT
SURPLUS SPENT ON CAPITAL

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1982										4005.3	-693.4	
1983	3837.2	435.4	4272.5	1904.4	1409.0	113.2	152.5	3579.1	693.4	4771.9	0.0	0.0
1984	4292.7	626.3	4919.0	2045.4	2597.4	127.3	148.9	4919.0	0.0	5143.3	0.0	0.0
1985	4707.9	823.0	5530.9	2209.0	2988.9	137.9	175.1	5530.9	0.0	5475.1	0.0	0.0
1986	4956.8	958.0	5914.8	2270.8	3286.8	125.0	232.1	5914.8	0.0	5759.8	0.0	0.0
1987	5505.5	1070.5	6575.9	2296.6	3907.4	111.8	260.1	6575.9	0.0	6031.2	0.0	0.0
1988	5049.1	1121.9	6171.0	2264.6	3530.4	100.6	275.3	6171.0	0.0	6281.1	0.0	0.0
1989	5020.9	1133.0	6153.9	2329.0	3448.3	87.4	289.2	6153.9	-0.0	6525.7	0.0	0.0
1990	4516.7	1114.3	5631.0	2395.3	2860.0	74.1	301.6	5631.0	0.0	6690.6	0.0	0.0
1991	4061.8	1067.6	5129.3	2463.4	2296.1	57.6	312.2	5129.3	0.0	6782.3	0.0	0.0
1992	3771.9	1016.8	4788.7	2533.4	1881.9	52.5	320.7	4788.7	-0.0	6851.0	0.0	0.0
1993	3570.0	979.0	4549.1	2605.5	1602.9	13.4	327.3	4549.1	0.0	6897.9	0.0	0.0
1994	3301.1	949.4	4250.5	2679.6	1339.7	10.0	331.8	4361.1	-110.6	6910.6	0.0	110.6
1995	2847.4	935.0	3782.4	2755.8	1377.8	8.2	334.1	4475.9	-693.5	6856.7	0.0	693.5
1996	2548.4	935.8	3484.2	2834.2	1417.0	7.0	334.5	4592.7	-1108.5	6766.8	0.0	1108.5
1997	2477.5	939.3	3416.9	2914.8	1457.3	5.0	333.2	4710.3	-1293.4	6681.0	-0.0	1293.4
1998	2323.6	940.4	3264.0	2997.7	1498.7	4.0	330.6	4831.0	-1567.0	6507.1	0.0	1567.0

ASSUMPTIONS

	EXISTING DEBT SERVICE	NEW DEBT	SEVERANCE TAXES	PETROL INCOME TAX	PROPERTY TAX	OTHER REVENUE	ROYALTIES X% TO PF	ROYALTIES 50% TO PF
1983	94.2	0.0	1,819.6	304.0	169.0	219.3	1,767.0	0.0
1984	91.3	0.0	2,214.1	360.0	256.0	240.1	2,145.1	0.0
1985	87.9	0.0	2,616.1	373.0	399.0	298.4	2,542.6	0.0
1986	86.0	0.0	2,970.9	400.0	543.2	352.9	2,869.6	0.0
1987	81.9	0.0	3,420.7	641.5	857.9	359.7	3,322.2	0.0
1988	78.9	0.0	3,179.9	663.0	836.3	367.7	3,629.1	0.0
1989	70.6	0.0	3,540.8	684.6	814.8	389.9	3,954.0	49.8
1990	59.5	0.0	3,421.2	706.1	793.2	418.2	3,838.6	78.1
1991	38.9	0.0	3,256.9	747.3	771.6	453.3	3,762.5	84.8
1992	38.2	0.0	3,257.3	792.3	737.0	495.4	3,710.2	255.0
1993	31.7	0.0	3,348.7	833.7	703.4	544.0	3,789.0	360.1
1994	25.8	0.0	3,357.0	861.2	669.8	598.6	3,733.4	463.2
1995	23.0	0.0	3,014.3	889.3	637.2	658.5	3,407.5	507.8
1996	21.5	0.0	2,848.4	918.6	604.6	724.8	3,223.0	606.6
1997	16.7	0.0	3,033.1	948.2	575.0	797.6	3,404.5	744.0
1998	14.4	0.0	3,076.6	948.1	540.4	878.0	3,447.2	870.0

ANNUAL RATE OF INTEREST ON GENERAL + PERMANENT FUNDS	=	0.120
ANNUAL RATE OF INTEREST ON NEW BONDS	=	0.100
MATURITY PERIOD ON NEW BONDS IN YEARS	=	10.000
% OF OPERATING BUDGET IN G.F. CASH BAL	=	0.200
% OF ROYALTIES TO PERMANENT FUND		0.250
% OF PERMANENT FUND EARNINGS PAID AS DIVIDENDS	=	0.500
% OF GF ADDED TO CAPITAL BUDGET	=	1.000
INFLATION RATE	=	0.090
'1' IF PERMANENT FUND INCOME BASED ON 5 YEAR AVERAGE	=	1.000
PER CAPITA DIVIDEND	=	50.000
NUMBER OF PRIOR YEAR DIVIDEND RECIPIENTS	=	2.966
GROWTH RATE IN DIVIDEND RECIPIENTS	=	0.020

STATE OF ALASKA
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GASLINE DEC 1986-HIGH INFLATION
DEPT OF REVENUE ESTIMATES
FY82 LEVEL OF SERVICE BUDGETS

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1982										4005.3	-693.4	
1983	3837.2	446.0	4283.2	1877.9	196.5	113.2	152.5	2340.1	1943.1	4771.9	1249.7	0.0
1984	4680.1	776.0	5456.2	2224.0	249.9	138.8	162.3	2774.9	2681.2	5606.2	3931.0	0.0
1985	5604.9	1289.2	6894.0	2694.8	302.5	163.8	231.8	3392.9	3501.2	6505.0	7432.1	0.0
1986	6455.3	1920.6	8375.9	3127.3	348.2	161.9	300.6	3938.0	4438.0	7459.1	11870.1	0.0
1987	7834.1	2704.5	10538.5	3417.5	595.1	157.8	367.2	4537.6	6000.9	9513.6	17871.0	0.0
1988	7826.8	3595.9	11422.8	3700.5	436.9	154.8	423.6	4715.8	6707.0	9664.3	24578.0	0.0
1989	8474.9	4598.8	13073.7	4120.8	488.1	146.5	485.0	5240.5	7833.2	10944.2	32411.2	0.0
1990	8245.7	5703.2	13948.9	4588.9	545.2	135.4	551.3	5820.9	8128.0	12221.1	40539.2	0.0
1991	7976.9	6855.1	14832.0	5110.3	608.9	114.8	621.7	6455.7	8376.3	13474.8	48915.5	0.0
1992	8051.9	8064.8	16116.7	5690.8	680.2	114.1	695.6	7180.7	8936.1	14804.0	57851.5	0.0
1993	8353.1	9370.4	17723.5	6337.3	759.8	31.7	772.7	7901.4	9822.1	16223.2	67673.7	0.0
1994	8559.9	10782.1	19342.0	7057.2	848.7	25.8	852.7	8784.3	10557.7	17719.4	78231.3	0.0
1995	8048.4	12244.2	20292.6	7858.9	948.0	23.0	935.0	9764.9	10527.8	19168.4	88759.1	0.0
1996	7850.7	13724.4	21575.0	8751.6	1058.9	21.5	1019.6	10851.6	10723.4	20626.0	99482.5	0.0
1997	8315.0	15274.8	23589.7	9745.8	1182.8	16.7	1106.9	12052.2	11537.5	22205.2	111020.0	0.0
1998	8497.4	16913.8	25411.2	10852.9	1321.1	14.4	1197.2	13385.6	12025.6	23872.2	123045.6	0.0

STATE OF ALASKA
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GASLINE DEC 1986-HIGH INFLATION
DEPT OF REVENUE ESTIMATES
FY82 LEVEL OF SERVICE BUDGETS

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1982										4005.3	-693.4	
1983	3837.2	446.0	4283.2	1877.9	196.5	113.2	152.5	2340.1	1943.1	4771.9	1249.7	0.0
1984	4293.7	712.0	5005.7	2040.3	229.3	127.3	148.9	2545.8	2459.8	5143.3	3606.4	0.0
1985	4717.5	1085.1	5802.6	2268.1	254.6	137.9	195.1	2855.7	2946.9	5475.1	6255.5	0.0
1986	4984.7	1483.1	6467.8	2414.8	268.9	125.0	232.1	3040.8	3426.9	5759.8	9165.9	0.0
1987	5549.8	1915.9	7465.8	2421.0	421.6	111.8	260.1	3214.6	4251.2	6031.2	12660.3	0.0
1988	5086.9	2337.1	7424.0	2405.0	284.0	100.6	275.3	3064.9	4359.1	6281.1	15974.0	0.0
1989	5053.3	2742.1	7795.4	2457.1	291.0	87.4	289.2	3124.7	4670.7	6525.7	19325.7	0.0
1990	4510.7	3119.9	7630.5	2510.3	298.2	74.1	301.6	3184.2	4446.3	6685.3	22176.3	0.0
1991	4003.3	3440.4	7443.7	2564.7	305.6	57.6	312.0	3239.9	4203.8	6762.5	24549.0	0.0
1992	3707.3	3713.3	7420.6	2620.2	313.2	52.5	320.3	3306.2	4114.4	6816.2	26636.5	0.0
1993	3528.5	3958.2	7486.6	2676.9	320.9	13.4	326.4	3337.6	4149.0	6852.8	28586.1	0.0
1994	3317.2	4178.4	7495.7	2736.9	328.9	10.0	330.4	3404.2	4091.4	6866.8	30317.2	0.0
1995	2861.5	4353.2	7214.7	2794.1	337.0	8.2	332.4	3471.7	3743.0	6815.0	31556.9	0.0
1996	2560.7	4476.6	7037.3	2854.6	345.4	7.0	332.6	3539.6	3497.8	6727.8	32449.1	0.0
1997	2488.2	4570.9	7059.1	2916.4	353.9	5.0	331.2	3606.6	3452.6	6644.8	33222.4	0.0
1998	2332.9	4643.5	6976.3	2979.5	362.7	4.0	328.7	3674.9	3301.5	6553.8	33780.7	0.0

ASSUMPTIONS

	EXISTING DEBT SERVICE	NEW DEBT	SEVERANCE TAXES	PETROL INCOME TAX	PROPERTY TAX	OTHER REVENUE	ROYALTIES X% TO PF	ROYALTIES 50% TO PF
1983	94.2	0.0	1,819.6	304.0	169.0	219.3	1,767.0	0.0
1984	91.3	0.0	2,214.1	360.0	257.0	240.2	2,145.1	0.0
1985	87.9	0.0	2,616.1	373.0	409.0	299.8	2,542.6	0.0
1986	84.0	0.0	2,970.9	400.0	572.8	359.4	2,869.6	0.0
1987	81.9	0.0	3,420.7	642.7	911.9	367.1	3,322.2	0.0
1988	78.9	0.0	3,179.9	664.2	888.1	372.8	3,329.1	0.0
1989	70.6	0.0	3,540.8	685.7	864.5	393.5	3,954.0	49.8
1990	59.5	0.0	3,386.2	707.2	840.7	420.8	3,802.3	78.1
1991	38.9	0.0	3,193.1	730.0	817.0	455.3	3,652.1	84.8
1992	38.2	0.0	3,186.3	772.4	780.2	497.3	3,584.3	255.0
1993	31.7	0.0	3,295.9	818.4	744.4	545.9	3,691.3	360.1
1994	25.8	0.0	3,357.0	862.0	708.7	600.5	3,733.4	443.2
1995	23.0	0.0	3,014.3	890.1	673.9	660.6	3,407.5	507.8
1996	21.5	0.0	2,844.4	919.3	639.2	727.2	3,223.0	606.6
1997	16.7	0.0	3,033.1	948.9	607.4	800.2	3,404.5	744.0
1998	14.4	0.0	3,076.6	948.9	570.6	880.9	3,447.2	870.0

ANNUAL RATE OF INTEREST ON GENERAL + PERMANENT FUNDS	=	0.120
ANNUAL RATE OF INTEREST ON NEW BONDS	=	0.100
MATURITY PERIOD ON NEW BONDS IN YEARS	=	10.000
% OF OPERATING BUDGET IN G.F. CASH BAL	=	0.200
% OF ROYALTIES TO PERMANENT FUND	=	0.250
% OF PERMANENT FUND EARNINGS PAID AS DIVIDENDS	=	0.500
INFLATION RATE	=	0.090
'1' IF PERMANENT FUND INCOME BASED ON 5 YEAR AVERAGE	=	1.000
PER CAPITA DIVIDEND	=	50.000
NUMBER OF PRIOR YEAR DIVIDEND RECIPIENTS	=	2.966
GROWTH RATE IN DIVIDEND RECIPIENTS	=	0.028

STATE OF ALASKA
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GASLINE DEC 1986-HIGH INFLATION
DEPT OF REVENUE ESTIMATES
FY82 LEVEL OF SERVICE BUDGETS
SURPLUS SPENT ON CAPITAL

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1982										4005.3	-693.4	
1983	3837.2	436.2	4273.3	1877.9	1436.3	113.2	152.5	3579.9	693.4	4771.9	0.0	0.0
1984	4680.1	684.9	5365.0	2224.0	2839.9	138.8	162.3	5365.0	-0.0	5606.2	0.0	0.0
1985	5604.9	977.6	6582.4	2694.8	3492.1	163.8	231.8	6582.4	-0.0	6505.0	0.0	0.0
1986	6455.3	1233.0	7688.3	3127.3	4098.5	161.9	300.6	7688.3	0.0	7459.1	0.0	0.0
1987	7834.1	1496.6	9330.6	3417.5	5388.1	157.8	367.2	9330.6	0.0	8513.6	0.0	0.0
1988	7826.8	1710.0	9536.8	3700.5	5257.9	154.8	423.6	9536.8	-0.0	9664.3	0.0	0.0
1989	8474.9	1881.3	10356.2	4120.8	5603.8	146.5	485.0	10356.2	-0.0	10944.2	0.0	0.0
1990	8245.7	2013.0	10258.6	4588.9	4982.9	135.4	551.3	10258.6	0.0	12221.1	0.0	0.0
1991	7976.9	2092.2	10069.1	5110.3	4222..	114.8	621.7	10069.1	0.0	13474.8	0.0	0.0
1992	8051.9	2161.8	10213.7	5690.8	3713.2	114.1	695.6	10213.7	0.0	14804.0	0.0	0.0
1993	8353.1	2267.7	10620.8	6337.3	3479.2	31.7	772.7	10620.8	0.0	16223.2	0.0	0.0
1994	8559.9	2393.5	10953.4	7057.2	3017.7	25.8	852.7	10953.4	-0.0	17719.4	0.0	0.0
1995	8048.4	2472.0	10520.4	7858.9	1703.6	23.0	935.0	10520.4	0.0	19168.4	0.0	0.0
1996	7850.7	2529.7	10380.3	8751.6	1058.9	21.3	1019.6	10851.6	-471.3	20626.0	0.0	471.3
1997	8315.0	2661.6	10976.6	9745.8	1182.8	16.7	1106.9	12052.2	-1075.6	22205.2	0.0	1075.6
1998	8497.4	2869.9	11367.3	10852.9	1321.1	14.4	1197.2	13385.6	-2018.3	23872.2	0.0	2018.3

STATE OF ALASKA
LEGISLATIVE FINANCE WORKING DOCUMENT
BUDGET FORECASTING MODEL
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GASLINE DEC 1986-HIGH INFLATION
DEPT OF REVENUE ESTIMATES
FY82 LEVEL OF SERVICE BUDGETS
SURPLUS SPENT ON CAPITAL

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1982										4005.3	-693.4	
1983	3837.2	436.2	4273.3	1877.9	1436.3	113.2	152.5	3579.9	693.4	4771.9	0.0	0.0
1984	4293.7	628.3	4922.0	2040.3	2605.4	127.3	148.9	4922.0	-0.0	5143.3	0.0	0.0
1985	4717.5	822.8	5540.3	2268.1	2939.1	137.9	195.1	5540.3	-0.0	5475.1	0.0	0.0
1986	4981.7	952.1	5936.8	2414.8	3164.8	125.0	232.1	5936.8	0.0	5759.8	0.0	0.0
1987	5549.8	1060.2	6610.0	2421.0	3817.1	111.8	260.1	6610.0	0.0	6031.2	0.0	0.0
1988	5086.9	1111.4	6198.3	2405.0	3417.3	100.6	275.3	6198.3	-0.0	6281.1	0.0	0.0
1989	5053.3	1121.7	6175.0	2457.1	3341.4	87.4	289.2	6175.0	-0.0	6525.7	0.0	0.0
1990	4510.7	1101.2	5611.8	2510.3	2725.8	74.1	301.6	5611.8	0.0	6685.3	0.0	0.0
1991	4003.3	1050.0	5053.3	2564.7	2119.0	57.6	312.0	5053.3	0.0	6762.5	0.0	0.0
1992	3707.3	995.3	4702.7	2620.2	1709.7	52.5	320.3	4702.7	0.0	6816.2	0.0	0.0
1993	3528.5	957.9	4486.4	2676.9	1469.7	13.4	326.4	4486.4	0.0	6852.8	0.0	0.0
1994	3317.2	927.6	4244.8	2734.9	1169.5	10.0	330.4	4244.8	-0.0	6866.8	0.0	0.0
1995	2861.5	878.9	3740.4	2794.1	605.7	8.2	332.4	3740.4	0.0	6815.0	0.0	0.0
1996	2560.7	825.1	3385.8	2854.6	345.4	7.0	332.6	3539.6	-153.7	6727.8	0.0	153.7
1997	2488.2	796.5	3284.7	2916.4	353.9	5.0	331.2	3606.6	-321.9	6644.8	0.0	321.9
1998	2332.9	787.9	3120.8	2979.5	362.7	4.0	328.7	3674.9	-554.1	6553.8	0.0	554.1

ASSUMPTIONS

	EXISTING DEBT SERVICE	NEW DEBT	SEVERANCE TAXES	PETROL INCOME TAX	PROPERTY TAX	OTHER REVENUE	ROYALTIES X% TO PF	ROYALTIES 50% TO PF
1983	94.2	0.0	1,819.6	304.0	169.0	219.3	1,767.0	0.0
1984	91.3	0.0	2,214.1	360.0	257.0	240.2	2,145.1	0.0
1985	87.9	0.0	2,616.1	373.0	409.0	299.8	2,542.6	0.0
1986	86.0	0.0	2,970.9	400.0	572.8	359.4	2,869.6	0.0
1987	81.9	0.0	3,420.7	642.7	911.9	367.1	3,322.2	0.0
1988	78.9	0.0	3,179.9	664.2	888.1	372.8	3,629.1	0.0
1989	70.6	0.0	3,540.8	685.7	864.5	393.5	3,954.0	49.8
1990	59.5	0.0	3,386.2	707.2	840.7	420.8	3,802.3	78.1
1991	38.9	0.0	3,193.1	730.0	817.0	455.3	3,652.1	84.8
1992	38.2	0.0	3,186.3	772.4	780.2	497.3	3,584.3	255.0
1993	31.7	0.0	3,295.9	818.4	744.4	545.9	3,691.3	360.1
1994	25.8	0.0	3,357.0	862.0	708.7	600.5	3,733.4	463.2
1995	23.0	0.0	3,014.3	890.1	673.9	660.6	3,407.5	507.8
1996	21.5	0.0	2,844.4	919.3	639.2	727.2	3,223.0	606.6
1997	16.7	0.0	3,033.1	948.9	607.4	800.2	3,404.5	744.0
1998	14.4	0.0	3,076.6	948.9	570.6	880.9	3,447.2	870.0

ANNUAL RATE OF INTEREST ON GENERAL + PERMANENT FUNDS	=	0.120
ANNUAL RATE OF INTEREST ON NEW BONDS	=	0.100
MATURITY PERIOD ON NEW BONDS IN YEARS	=	10.000
% OF OPERATING BUDGET IN G.F. CASH BAL	=	0.200
% OF ROYALTIES TO PERMANENT FUND	=	0.250
% OF PERMANENT FUND EARNINGS PAID AS DIVIDENDS	=	0.500
% OF GF ADDED TO CAPITAL BUDGET	=	1.000
INFLATION RATE	=	0.090
'1' IF PERMANENT FUND INCOME BASED ON 5 YEAR AVERAGE	=	1.000
PER CAPITA DIVIDEND	=	50.000
NUMBER OF PRIOR YEAR DIVIDEND RECIPIENTS	=	2.966
GROWTH RATE IN DIVIDEND RECIPIENTS	=	0.028

STATE OF ALASKA
LEGISLATIVE FINANCE WORKING DOCUMENT
BUDGET FORECASTING MODEL

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GASLINE DEC 1986-HIGH INFLATION
DEPT OF REVENUE ESTIMATES
BUDGETS AT SPENDING LIMIT

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERMANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1982										4005.3	-493.4	
1983	3837.2	438.2	4275.4	1922.2	961.0	113.2	132.5	3148.9	1126.5	4771.9	433.1	0.0
1984	4680.1	715.9	5396.0	2315.7	1157.8	138.8	162.3	3774.5	1621.5	5606.2	2054.6	0.0
1985	5604.9	1117.8	6722.7	2859.2	1429.5	163.8	231.8	4684.3	2038.4	6505.0	4093.0	0.0
1986	6455.3	1584.0	8039.3	3205.4	1602.6	161.9	300.6	5270.5	2768.8	7459.1	6861.8	0.0
1987	7834.1	2170.1	10004.1	3493.9	1746.8	157.8	367.2	5765.8	4238.3	8513.6	11100.1	0.0
1988	7826.8	2830.7	10657.5	3755.2	1877.5	154.8	423.6	6211.2	4446.3	9664.3	15546.4	0.0
1989	8474.9	3560.5	12035.4	4209.6	2104.7	146.5	485.0	6945.8	5089.6	10944.2	20636.0	0.0
1990	8245.7	4331.1	12576.8	4719.0	2359.4	135.4	551.3	7765.1	4811.7	12221.1	25447.7	0.0
1991	7976.9	5074.4	13051.3	5290.0	2644.8	114.8	621.7	8671.4	4379.9	13474.8	29827.6	0.0
1992	8051.9	5790.3	13842.2	5930.1	2964.9	114.1	695.6	9704.8	4137.6	14804.0	33965.1	0.0
1993	8353.1	6501.5	14854.7	6647.6	3323.6	31.7	772.7	10775.6	4079.1	16223.2	38044.2	0.0
1994	8559.9	7200.4	15760.2	7452.0	3725.8	25.8	852.7	12056.2	3704.0	17719.4	41748.2	0.0
1995	8048.4	7810.0	15858.4	8353.7	4176.6	23.0	935.0	13488.3	2370.2	19168.4	44118.4	0.0
1996	7850.7	8273.9	16124.5	9364.5	4682.0	21.5	1019.6	15087.5	1037.0	20626.0	45155.4	0.0
1997	8315.0	8615.6	16930.6	10497.6	5248.5	16.7	1106.9	16869.7	60.9	22205.2	45216.3	0.0
1998	8497.4	8820.6	17318.0	11767.8	5883.5	14.4	1197.2	18862.9	-1544.9	23872.2	43671.4	0.0

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GASLINE DEC 1986-HIGH INFLATION
DEPT OF REVENUE ESTIMATES
BUDGETS AT SPENDING LIMIT

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR OF BAL OF $0 MIL
1982										4005.3	-693.4	
1983	3837.2	438.2	4275.4	1922.2	961.0	113.2	152.5	3148.9	1126.5	4771.9	433.1	0.0
1984	4293.7	656.8	4950.5	2124.5	1062.2	127.3	148.9	3462.9	1487.6	5143.3	1884.9	0.0
1985	4717.5	940.9	5658.3	2406.5	1203.2	137.9	195.1	3942.6	1715.7	5475.1	3445.0	0.0
1986	4984.7	1223.2	6207.8	2475.2	1237.5	125.0	232.1	4069.8	2138.0	5759.8	5298.6	0.0
1987	5549.8	1537.3	7087.2	2475.2	1237.5	111.8	260.1	4084.6	3002.5	6031.2	7863.6	0.0
1988	5086.9	1839.8	6926.7	2440.7	1220.3	100.6	275.3	4036.9	2889.3	6281.1	10104.1	0.0
1989	5053.3	2123.0	7176.3	2510.1	1255.0	87.4	289.2	4141.6	3034.7	6525.7	12304.6	0.0
1990	4510.7	2369.3	6879.9	2581.5	1290.6	74.1	301.6	4247.8	2632.2	6685.3	13920.8	0.0
1991	4003.3	2546.7	6550.0	2654.9	1327.4	57.6	312.0	4351.9	2198.1	6762.5	14969.5	0.0
1992	3707.3	2666.0	6373.3	2730.4	1365.1	52.5	320.3	4468.3	1905.0	6816.2	15638.5	0.0
1993	3528.5	2746.3	6274.8	2808.0	1403.9	13.4	326.4	4551.7	1723.0	6852.8	16070.3	0.0
1994	3317.2	2790.4	6107.6	2887.9	1443.9	10.0	330.4	4672.2	1435.4	6866.8	16178.8	0.0
1995	2861.5	2776.7	5638.2	2970.0	1484.9	8.2	332.4	4795.5	842.7	6815.0	15685.6	0.0
1996	2560.7	2698.8	5259.5	3054.5	1527.2	7.0	332.6	4921.2	338.3	6727.8	14728.7	0.0
1997	2488.2	2578.2	5066.4	3141.4	1570.6	5.0	331.2	5048.2	18.2	6644.8	13530.8	0.0
1998	2332.9	2421.6	4754.4	3230.7	1615.3	4.0	328.7	5178.6	-424.1	6553.8	11989.5	0.0

ASSUMPTIONS

	EXISTING DEBT SERVICE	NEW DEBT	SEVERANCE TAXES	PETROL INCOME TAX	PROPERTY TAX	OTHER REVENUE	ROYALTIES X% TO PF	ROYALTIES 50% TO PF
1983	94.2	0.0	1,819.6	304.0	169.0	219.3	1,767.0	0.0
1984	91.3	0.0	2,214.1	360.0	257.0	240.2	2,145.1	0.0
1985	87.9	0.0	2,616.1	373.0	409.0	299.8	2,542.6	0.0
1986	84.5	0.0	2,970.9	400.0	572.8	359.4	2,869.6	0.0
1987	81.9	0.0	3,420.7	642.7	911.9	367.1	3,322.2	0.0
1988	78.9	0.0	3,179.9	664.2	888.1	372.8	3,629.1	0.0
1989	70.6	0.0	3,540.8	685.7	864.5	393.5	3,954.0	49.8
1990	59.5	0.0	3,386.2	707.2	840.7	420.8	3,802.3	78.1
1991	38.9	0.0	3,193.1	730.0	817.0	455.3	3,652.1	84.8
1992	38.2	0.0	3,186.3	772.4	780.2	497.3	3,584.3	255.0
1993	31.7	0.0	3,295.9	818.4	744.4	545.9	3,691.3	360.1
1994	25.8	0.0	3,357.0	862.0	708.7	600.5	3,733.4	463.2
1995	23.0	0.0	3,014.3	890.1	673.9	660.6	3,407.5	507.8
1996	21.5	0.0	2,844.4	919.3	639.2	727.2	3,223.0	606.6
1997	16.7	0.0	3,033.1	948.9	607.4	800.2	3,404.5	744.0
1998	14.4	0.0	3,076.6	948.9	570.6	880.9	3,447.2	870.0

ANNUAL RATE OF INTEREST ON GENERAL + PERMANENT FUNDS	=	0.120
ANNUAL RATE OF INTEREST ON NEW BONDS	=	0.100
MATURITY PERIOD ON NEW BONDS IN YEARS	=	10.000
% OF OPERATING BUDGET IN G.F. CASH BAL	=	0.200
% OF ROYALTIES TO PERMANENT FUND	=	0.250
% OF PERMANENT FUND EARNINGS PAID AS DIVIDENDS	=	0.500
INFLATION RATE	=	0.090
'1' IF PERMANENT FUND INCOME BASED ON 5 YEAR AVERAGE	=	1.000
PER CAPITA DIVIDEND	=	50.000
NUMBER OF PRIOR YEAR DIVIDEND RECIPIENTS	=	2.966
GROWTH RATE IN DIVIDEND RECIPIENTS	=	0.028

STATE OF ALASKA
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DEPT OF REVENUE ESTIMATES
BUDGETS AT SPENDING LIMIT
SURPLUS SPENT ON CAPITAL

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1982										305.3	-693.4	
1983	3837.2	434.8	4272.0	1922.2	1390.7	113.2	152.5	3578.6	693.4	4771.9	0.0	0.0
1984	4680.1	678.8	5359.0	2315.7	2742.2	138.8	162.3	5359.0	0.0	5606.2	0.0	0.0
1985	5604.9	964.6	6569.4	2859.2	3314.7	163.8	231.8	6569.4	0.0	6505.0	0.0	0.0
1986	6455.3	1215.7	7671.0	3205.4	4003.1	161.9	300.6	7671.0	-0.0	7 .1	0.0	0.0
1987	7834.1	1483.2	9317.3	3193.9	5298.3	157.8	367.2	9317.3	0.0	8 3.6	0.0	0.0
1988	7826.8	1699.7	9526.5	3755.2	5192.8	154.8	423.6	9526.5	0.0	9664.3	0.0	0.0
1989	8474.9	1871.8	10346.7	4209.6	5505.6	146.5	485.0	10346.7	0.0	10944.2	0.0	0.0
1990	8245.7	2000.5	10246.2	4719.0	4840.4	135.4	551.3	10246.2	-0.0	12221.1	0.0	0.0
1991	7976.9	2074.3	10051.2	5290.0	4024.6	114.8	621.7	10051.2	0.0	13474.8	0.0	0.0
1992	8051.9	2137.1	10189.0	5930.1	3449.3	114.1	695.6	10189.0	-0.0	14804.0	0.0	0.0
1993	8353.1	2244.7	10597.8	6647.6	3323.6	31.7	772.7	10775.6	-177.8	16223.2	0.0	177.8
1994	8559.9	2423.7	10983.6	7452.0	3725.8	25.8	852.7	12056.2	-1072.7	17719.4	0.0	1072.7
1995	8048.4	2658.0	10706.4	8353.7	4176.6	23.0	935.0	13488.3	-2781.8	19168.4	0.0	2781.8
1996	7850.7	2917.5	10768.1	9364.5	4682.0	21.5	1019.6	15087.5	-4319.4	20626.0	0.0	4319.4
1997	8315.0	3193.3	11508.3	10497.6	5248.5	16.7	1106.9	16869.7	-5361.4	22205.2	0.0	5361.4
1998	8497.4	3487.3	11984.7	11767.8	5803.5	14.4	1197.2	18862.9	-6878.2	23872.2	0.0	6878.2

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DEPT OF REVENUE ESTIMATES
BUDGETS AT SPENDING LIMIT
SURPLUS SPENT ON CAPITAL

YEAR END	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND END	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1982										4005.3	-693.4	
1983	3837.2	434.8	4272.0	1922.2	1390.7	113.2	152.5	3578.6	693.4	4771.9	0.0	0.0
1984	4293.7	622.8	4916.5	2124.5	2515.8	127.3	148.9	4916.5	0.0	5143.3	0.0	0.0
1985	4717.5	811.9	5529.3	2406.5	2789.9	137.9	195.1	5529.3	0.0	5475.1	0.0	0.0
1986	4984.7	938.7	5923.4	2475.2	3091.1	125.0	232.1	5923.4	-0.0	5759.8	0.0	0.0
1987	5549.8	1050.8	6600.6	2475.2	3753.5	111.8	260.1	6600.6	0.0	6031.2	0.0	0.0
1988	5086.9	1104.7	6191.6	2440.7	3375.0	100.6	275.3	6191.6	0.0	6281.1	0.0	0.0
1989	5053.3	1116.1	6169.4	2510.1	3282.8	87.4	289.2	6169.4	0.0	6525.7	0.0	0.0
1990	4510.7	1094.3	5605.0	2581.5	2647.9	74.1	301.6	5605.0	-0.0	6685.3	0.0	0.0
1991	4003.3	1041.0	5044.3	2654.9	2019.8	57.6	312.0	5044.3	0.0	6762.5	0.0	0.0
1992	3707.3	984.0	4691.3	2730.4	1588.1	52.5	320.3	4691.3	-0.0	6816.2	0.0	0.0
1993	3528.5	948.2	4476.6	2808.0	1403.9	13.4	326.4	4551.7	-75.1	6852.8	0.0	75.1
1994	3317.2	939.3	4256.5	2887.9	1443.9	10.0	330.4	4672.2	-415.7	6866.8	0.0	415.7
1995	2861.5	945.0	3806.5	2970.0	1484.9	8.2	332.4	4795.5	-989.0	6815.0	0.0	989.0
1996	2560.7	951.6	3512.3	3054.5	1527.2	7.0	332.6	4921.2	-1408.9	6727.8	0.0	1408.9
1997	2488.2	955.6	3443.8	3141.4	1570.6	5.0	331.2	5048.2	-1604.4	6644.8	0.0	1604.4
1998	2332.9	957.4	3290.3	3230.7	1615.3	4.0	328.7	5178.6	-1888.3	6553.8	0.0	1888.3

ASSUMPTIONS

	EXISTING DEBT SERVICE	NEW DEBT	SEVERANCE TAXES	PETROL INCOME TAX	PROPERTY TAX	OTHER REVENUE	ROYALTIES X% TO PF	ROYALTIES 50% TO PF
1983	94.2	0.0	1,819.6	304.0	169.0	219.3	1,767.0	0.0
1984	91.3	0.0	2,214.1	360.0	257.0	240.2	2,145.1	0.0
1985	87.9	0.0	2,616.1	373.0	409.0	299.8	2,542.6	0.0
1986	86.0	0.0	2,970.9	400.0	572.8	359.4	2,869.6	0.0
1987	81.9	0.0	3,420.7	642.7	911.9	367.1	3,322.2	0.0
1988	78.9	0.0	3,179.9	664.2	888.1	372.8	3,629.1	0.0
1989	70.6	0.0	3,540.8	685.7	864.5	393.5	3,954.0	49.8
1990	59.5	0.0	3,386.2	707.2	840.7	420.8	3,802.3	78.1
1991	38.9	0.0	3,193.1	730.0	817.0	455.3	3,652.1	84.8
1992	38.2	0.0	3,186.3	772.4	780.2	497.3	3,584.3	255.0
1993	31.7	0.0	3,295.9	818.4	744.4	545.9	3,691.3	360.1
1994	25.8	0.0	3,357.0	862.0	708.7	600.5	3,733.4	463.2
1995	23.0	0.0	3,014.3	890.1	673.9	660.6	3,407.5	507.8
1996	21.5	0.0	2,844.4	919.3	639.2	727.2	3,223.0	606.6
1997	16.7	0.0	3,033.1	948.9	607.4	800.2	3,404.5	744.0
1998	14.4	0.0	3,076.6	948.9	570.6	880.9	3,447.2	870.0

ANNUAL RATE OF INTEREST ON GENERAL + PERMANENT FUNDS	=	0.120
ANNUAL RATE OF INTEREST ON NEW BONDS	=	0.100
MATURITY PERIOD ON NEW BONDS IN YEARS	=	10.000
% OF OPERATING BUDGET IN G.F. CASH BAL	=	0.200
% OF ROYALTIES TO PERMANENT FUND	=	0.250
% OF PERMANENT FUND EARNINGS PAID AS DIVIDENDS	=	0.500
% OF GF ADDED TO CAPITAL BUDGET	=	1.000
INFLATION RATE	=	0.090
'1' IF PERMANENT FUND INCOME BASED ON 5 YEAR AVERAGE	=	1.000
PER CAPITA DIVIDEND	=	50.000
NUMBER OF PRIOR YEAR DIVIDEND RECIPIENTS	=	2.966
GROWTH RATE IN DIVIDEND RECIPIENTS	=	0.028

APPENDIX B

Mr. Edwin (Al) Kuhn, Director
Government & Environmental Affairs
Northwest Alaskan Pipeline Company
1801 K Street, N.W.
Washington, D. C. 20006

Dear Mr. Kuhn:

In accordance with our ongoing discussions regarding Northwest Pipeline impact on the State highway system, our Department has prepared an estimate of what the expected cost of that impact will be. We have made every effort to fairly discriminate between the effects of non-pipeline related use and those impacts which can be related to the pipeline construction effort.

As can be seen in the attached report, pipeline related use will be equivalent to many years of expected normal usage, necessitating repair and reconstruction of these routes much sooner than would be normally anticipated.

In addition, certain maintenance costs which are directly related to traffic volume can be expected to increase substantially.

In order to properly protect other highway users and our taxpayers' investment in our present roadway system, gas pipeline project costs must include $300 Million for reimbursement to the State of Alaska to repair pipeline-related damages to our highway system.

We would like to meet with you at your earliest convenience to discuss this proposal.

Sincerely,

Robert Ward

Robert W. Ward
Commissioner

Enclosure.

RWW:JCB:rm

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
Division of Planning and Programming

NORTHWEST ALASKAN PIPELINE COMPANY HIGHWAY IMPACT REPORT

June 27, 1980

The following analysis has been undertaken to determine the relative impact construction of the Northwest-Alaskan Natural Gas Pipeline will have on the Alaska Road System.

Information received from Northwest Alaskan Pipeline Company officials concerning their line hauling operations (pipe, insulation, equipment and POL products) were analysed to determine the expected traffic in terms of volume and equivalent axle loadings (EAL's). Equivalent axle loadings are used by our Department to develop the design parameters for highway construction, the physical characteristics being directly related to the requirements to sustain a projected number of EAL's over a 20 year design life. The more EAL's in those 20 years, the stronger the road will need to be.

In addition to the line haul traffic, the impact of support traffic for the pipeline, including camp mobilization, hauling from staging areas, and the shipment of foodstuffs and other commodities, will be very substantial. It has been estimated from experience with the Alyeska Pipeline that this will equal approximately 50% of the line haul traffic.

Non-pipeline traffic on roads south of Fairbanks have historically experienced volume increases of 7% to 8% per year, a trend which is expected to continue. North of Fairbanks there is a lack of historical data, but it can be assumed that truck traffic there would level out near the volumes experienced in the past two years. These years should represent the amount of traffic necessary to sustain current levels of activity and should not contain significant levels of pipeline construction traffic.

Assuming an average age of 10 years for these roads, the number of EAL's which could normally be expected in a 20 year life was computed. This 20 year EAL expectancy has been compared in Table 1 to the number of EAL's generated by pipeline related traffic. The comparative usage was then used to allocate estimated highway rebuilding costs to pipeline impact, as shown in Tables 2 and 4. Results of that investigation indicate that the Northwest construction effort will expend between 19% and 96% of the traffic loadings we would normally expect on the routes studied. Applying this to the repair and reconstruction estimates prepared by our Design section results in a cost of $84,700,000 in today's dollars attributable to pipeline related traffic.

This excludes areas where pipeline related gravel hauling is to be done on public highways. These areas total approximately 42 miles. Determination of traffic volumes and equivalent axle loadings in these areas is very difficult due to lack of information on the hauling units which will be utilized. This is complicated by the fact that these areas are isolated sections where enforcement of legal loading regulations will be inhibited by lack of weigh stations. It may be possible to treat these areas as construction haul roads allowing the use of off road equipment, detours and other forms of traffic control. Repair of these sections would become the total responsibility of Northwest Alaskan Pipeline Company and should be done immediately after hauling is finished. Repair cost of these sections is estimated at $4,116,000 in today's dollars.

Another important factor which is left out of this discussion is impact on bridges. Our computations indicate that the 80 ft. pipe hauling units will have one axle group (tri-axle) grossing over 58 kips, or approximately a 40% overload. This problem must be analyzed by our Bridge Design section to determine the impact in this area.

Past research has also indicated that increased frequency of loading may accelerate roadway damage; however, this information is not available in a quantifiable form which could be applied to the situation at hand.

Pipeline related traffic has also been compared on an annual basis to normal traffic in order to determine expected additional maintenance costs. These comparisons are shown in Tables 3-C through 3-D. This information has been analysed by our Maintenance section and applied to historical maintenance costs to arrive at an estimate of increased costs due to pipeline impact. These costs are shown in Table 4. The resulting estimate of pipeline related maintenance costs is nearly $67,000,000 in 1980 dollars. This estimate is based upon the assumption that reasonable load restrictions will continue to be imposed during breakup, periods of excessively wet weather, or other conditions which could lead to extensive sub-base damage.

In summary, our recapitulation of estimated costs for the known impacts of pipeline construction includes the following:

Roadway & bridge repair and reconstruction--------	$112,588,000
Roadway repair in areas impacted by gravel haul----------	4,100,000
Additional maintenance costs during pipeline construction----------	66,800,000
TOTAL:	$184,488,000

This cost is given in 1980 dollars.

The effect of inflation on these figures is substantial. Using a 10% inflationary constant with 1980 as the base year, the estimated costs for the known impacts of pipeline construction would be:

Roadway repair and reconstruction (1986)---------		$199,822,000
Roadway repair in areas impacted by gravel haul (1986) ----------		7,300,000
Additional maintenance costs during pipeline construction:		
1982 ----------	8,400,000	
1983 ----------	25,700,000	
1984 ----------	31,100,000	
1985 ----------	31,000,000	
	96,200,000 ----------	96,200,000
TOTAL:		$303,422,000

APPENDIX C

STATE OF ALASKA

JAY S. HAMMOND, GOVERNOR

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

DEPUTY COMMISSIONER – PLANNING AND PROGRAMMING

POUCH Z
JUNEAU, ALASKA 99811
PHONE:

January 28, 1982

Honorable Vic Fischer
Alaska State Senator
Pouch V
Juneau, AK 99811

Dear Senator Fischer:

Re: Construction Costs Escalation

Mr. Bob Williams of your staff contacted my office on January 18, 1982, requesting a brief explanation of the reasons behind the great increases in construction costs as compared to the consumer price index.

At the current time, the demand for construction-related materials is out-stripping overall population increases. The current availability of low-interest loan programs has greatly stimulated construction associated with smaller development projects, especially housing. Large-scale capital funding by the State and the oil industry has further increased demand for the limited supply of materials.

In a survey conducted by HMS, Inc. of Anchorage during October of 1981, it was found that basic material costs for steel, copper, aluminum, etc., as well as manufactured items, have been increasing at a 30% annual rate. It was also found that some items, such as concrete, have shown surprising price stability. HMS, Inc., determined that the overall annual inflation rate for materials is approaching 20% annually. Material cost increases combined with union contract wage increases could easily result in a construction escalation rate of 2% per month (24% per year) in 1982.

I hope this information helps clarify your observation that construction prices are rising at a much faster rate than the overall consumer price index. If I can be of further help, please contact me.

Sincerely,

John C. Bates
Deputy Commissioner

APPENDIX D

MEMORANDUM

State of Alaska
Department of Revenue

TO: Joe Donohue
Deputy Commissioner

DATE: February 18, 1982

FILE NO:

TELEPHONE NO:

FROM: Chuck Logsdon
Petroleum Economist
Petroleum Revenue Division

SUBJECT: Gasline Analysis

Subsequent to my memorandum to you on January 25, 1982 I reworked the input assumptions to reflect the possibility of zero wellhead price for the first several years of ANGTS operation.

Milt Barker provided me with numbers published from U.S. Senate Hearings on the ANGTS waiver recommendation. The numbers included Northwest's current cost estimates and wellhead prices from the Federal Inspectors cost of service simulation model.

I ran three cases:

1. Center point cost estimate and Federal ceiling price @ wellhead.
2. Center point cost estimate and cost of service model wellhead (0 for the 1st three years).
3. 40% cost overrun and cost of service model wellhead prices (0 for the 1st four years).

These runs are attached for your information.

I telecopied these numbers to Milt on February 12, 1982 as he needed them for input into his cost-benefit projections which were presented February 16, 1982.

These revenue projections should take care of the problems mentioned in Mary Halloran's memo to you February 8, 1982. As nearly as I can tell the cost of the conditioning plant is handled by the cost of service model as allocated entirely to the consumers through the tariff.

CLL:il

cc: Fred Boetsch, Petroleum Revenue
Mary Halloran, Dept. of Natural Resources
Milt Barker, Legislative Finance

MEMORANDUM

State of Alaska
Department of Revenue

TO: Joseph K. Donohue
Deputy Commissioner

DATE: January 25, 1982

FILE NO:

TELEPHONE NO:

FROM: Charles L. Logsdon
Petroleum Economist
Petroleum Revenue Division

SUBJECT: Prudhoe Bay Gas
Revenue Projections

Attached you will find several tables which lay out projected gas revenues under varying assumptions concerning wellhead price, actual construction cost of the Northwest Alaska ANGTS segment, and property tax methodology.

For comparative purposes I have run out the numbers for the following cases:

Case 1 - High price, $27 B construction cost, and trended depreciation for property tax purposes;

Case 2 - High price, $24 B construction cost and trended depreciation;

Case 3 - Low price, $27 B construction cost, st. line depreciation for property tax;

Case 4 - Low price, $24 B construction cost, st. line depreciation.

The other assumptions regarding key variables such as number of wells and assumed inflation appear with each output.

Since the algorithm for revenue projection is computerized further sensitivity analyses could be performed.

The various input assumptions are as follows:

ASSUMPTIONS

Column

1. Volume (bcf/day) is assumed to be the amount delivered from conditioning plant; actual production volume will be closer to 2.4 bcf/d at the wellhead.

2. High price is calculated by inflating the FERC ceiling price of $1.78/Mcf (1.63/MMbtu) in December 1978 by 7% per annum. All conditioning costs are passed forward to consumer in tariff. Low price is assumed to be $1.25/Mcf in 1986 inflated at the rate of 7% annually. This is to account for downward pressure on wellhead price to assure marketability downstream.

3. $$ELF = \left[1-\frac{(300 * wells * days)}{daily\ prod. * days}\right] \exp\left[460/3007\right]$$

NOTE: The price and inflation assumptions in this memo were modified to those in the February 18, 1982 memo of Charles Logsdon for use in the benefits analysis.

Column

4. Severance tax is at 10% * ELF * non-royalty production * price

5. Royalties are equal to production * (price - field cost) * .125. Field cost assumed to be $.20/Mcf times 7% annual inflation.

6. Two Ways
   A. Property Taxes (2%) calculated on inflated undepreciated base assuming an initial cost of $27 B. Inflation is assumed to be 7%.

   B. Property taxes (2%) are calculated on a straight line depreciation remaining life basis.

7. Production expenses are assumed to be $500 million and inflated by 3% until 2005 when they are assumed level at $850 million.

8. The production income tax is calculated as .275 * .094 * (Gross production value less royalties less severance tax less production expenses) .275 is a factor used to scale production income tax estimates in line with the current corporate income tax law.

9. ANGST-Northwest income tax is calculated on straight line depreciated equity of 25% of the estimated $27.0 billion construction cost with a rate of return after tax equal to 17.5%. A federal tax rate of 42% and a state tax rate of 9.4% are assumed.

10. $27.0 billion is assumed to be the center point cost of construction; hence, if the NW ANGTS portion of the gas line costs $24 B to build the rate of return would be:

$$R = [(17.5) \times (1.3) + 8(\frac{24.0}{20.77} - 1.3)] / \frac{24.0}{20.77}$$

$$= [22.75 - 1.16] / 1.16$$

$$= 18.61\%$$

CLL:il

cc: Vincent Wright
Milt Barker

INPUT ASSUMPTIONS FOR THE NORTHWEST ALASKA SEGMENT OF ANGTS

Rate Base = Cost of Construction = Sponsor
Estimate for Centerpoint Rate of Return.
Wellhead Price @ FERC ceiling
8% Inflation

RATE OF INFLATION (PERCENT): 8.0%
COST OF CONSTRUCTION: 27000
ECONOMIC LIFE: 25
PERCENT EQUITY: 25.00%
DISCOUNT RATE: 10.00%
CNTR PT RATE OF RETURN: 17.5%
AD VALOREM: ORIGINAL COST

FISCAL YEAR	VOLUME	PRICE	WELLS	ELF	PROD. EXPENSE	FIELD COST
1987	2.000	3.060	550.000	0.840	500.000	0.200
1988	2.000	3.305	555.000	0.839	530.450	0.216
1989	2.000	3.569	560.000	0.837	546.360	0.233
1990	2.000	3.855	540.000	0.843	562.450	0.252
1991	2.000	4.163	520.000	0.826	579.640	0.272
1992	2.000	4.496	500.000	0.805	597.030	0.294
1993	2.000	4.856	490.000	0.773	614.940	0.317
1994	2.000	5.244	480.000	0.748	633.390	0.343
1995	2.000	5.664	470.000	0.719	652.390	0.370
1996	2.000	6.117	460.000	0.660	671.960	0.400
1997	2.000	6.606	450.000	0.589	692.120	0.432
1998	2.000	7.135	440.000	0.576	712.880	0.466
1999	2.000	7.706	430.000	0.535	734.270	0.504
2000	2.000	8.322	420.000	0.511	756.300	0.544
2001	2.000	8.988	410.000	0.461	778.980	0.587
2002	2.000	9.707	400.000	0.406	802.350	0.634
2003	2.000	10.483	390.000	0.359	826.420	0.685
2004	2.000	11.322	380.000	0.314	851.220	0.740
2005	1.600	12.228	370.000	0.260	850.000	0.799
2006	1.280	13.206	360.000	0.229	850.000	0.863
2007	1.020	14.263	350.000	0.212	850.000	0.932
2008	0.820	15.404	340.000	0.193	850.000	1.007
2009	0.660	16.636	330.000	0.172	850.000	1.087
2010	0.520	17.967	320.000	0.149	850.000	1.174
2011	0.420	19.404	310.000	0.167	850.000	1.268
2012	0.340	20.956	300.000	0.186	850.000	1.370
2013	0.270	22.633	300.000	0.186	850.000	1.479
2014	0.210	24.443	300.000	0.186	850.000	1.598
2015	0.210	26.399	300.000	0.186	850.000	1.725
2016	0.210	28.511	300.000	0.186	850.000	1.863

PROJECTED STATE OF ALASKA NATURAL GAS REVENUES FROM
PRUDHOE BAY EXTRACTION & SALE THROUGH ANGTS

FISCAL YEAR	SEV.TAX	ROYALTY	AD VALOREM	PRODUCTION INCOME TAX	PIPELINE INCOME TAX	TOTAL GAS REVENUE	DISCOUNTED CASHFLOW
1987	164.162	260.975	540.000	33.828	211.500	1210.485	621.170
1988	177.018	281.853	518.400	36.789	203.040	1217.101	1180.957
1989	190.859	304.401	496.800	40.426	194.580	1227.066	1709.353
1990	207.516	328.753	475.200	44.339	186.120	1241.920	2188.170
1991	219.718	355.054	453.600	48.718	177.660	1254.749	2627.952
1992	231.137	383.458	432.000	53.524	169.200	1269.319	3032.396
1993	239.619	414.135	410.400	58.836	160.740	1283.730	3404.246
1994	250.591	447.265	388.800	64.550	152.280	1303.486	3747.495
1995	260.199	483.047	367.200	70.802	143.820	1325.068	4064.706
1996	257.799	521.690	345.600	77.910	135.360	1338.360	4355.972
1997	248.396	563.425	324.000	85.787	126.900	1348.509	4622.767
1998	262.564	608.499	302.400	93.693	118.440	1385.596	4871.979
1999	263.269	657.179	280.800	102.634	109.980	1413.862	5103.157
2000	271.410	709.754	259.200	112.128	101.520	1454.011	5319.286
2001	264.477	766.534	237.600	122.816	93.060	1484.487	5519.086
2002	251.762	827.857	216.000	134.524	84.600	1514.743	5705.966
2003	240.268	894.085	194.400	147.141	76.140	1552.034	5879.294
2004	227.061	965.612	172.800	160.818	67.680	1593.972	6041.123
2005	142.696	934.289	151.200	136.852	59.220	1344.256	6165.193
2006	123.863	720.826	129.600	115.683	50.760	1140.732	6260.906
2007	98.504	620.361	108.000	96.707	42.300	965.871	6334.501
2008	77.824	538.619	86.400	81.268	33.840	817.952	6391.369
2009	60.305	468.204	64.800	67.961	25.380	686.651	6434.584
2010	44.452	398.399	43.200	54.730	16.920	557.702	6466.547
2011	43.442	347.527	21.600	44.815	8.460	465.844	6490.017
2012	42.219	303.838	0.000	36.310	0.000	382.366	6508.927
2013	36.209	260.586	0.000	28.013	0.000	324.808	6522.912
2014	30.416	218.892	0.000	20.015	0.000	269.323	6533.454
2015	32.849	236.403	0.000	23.374	0.000	292.626	6543.067
2016	35.477	255.315	0.000	27.002	0.000	317.794	6554.147

INPUT ASSUMPTIONS FOR THE NORTHWEST ALASKA SEGMENT OF ANGTS

RATE OF INFLATION (PERCENT): 8.0%
COST OF CONSTRUCTION: 27000
ECONOMIC LIFE: 25
PERCENT EQUITY: 25.00%
DISCOUNT RATE: 10.00%
CNTR PT RATE OF RETURN: 17.5%
AD VALOREM: ORIGINAL COST

Wellhead Price from Cost of Service Model for ANGTS, Federal Inspector for ANGTS, October 19, 1981

FISCAL YEAR	VOLUME	PRICE	WELLS	ELF	PROD. EXPENSE	FIELD COST
1987	2.000	0.000	550.000	0.840	500.000	0.200
1988	2.000	0.000	555.000	0.839	530.450	0.216
1989	2.000	0.000	560.000	0.837	546.360	0.233
1990	2.000	0.650	540.000	0.843	562.450	0.252
1991	2.000	2.240	520.000	0.826	579.640	0.272
1992	2.000	3.810	500.000	0.805	597.030	0.294
1993	2.000	5.130	490.000	0.773	614.940	0.317
1994	2.000	5.530	480.000	0.748	633.390	0.343
1995	2.000	5.970	470.000	0.719	652.390	0.370
1996	2.000	6.460	460.000	0.660	671.960	0.400
1997	2.000	6.960	450.000	0.589	692.120	0.432
1998	2.000	7.520	440.000	0.576	712.880	0.466
1999	2.000	8.050	430.000	0.535	734.270	0.504
2000	2.000	8.610	420.000	0.511	756.300	0.544
2001	2.000	9.210	410.000	0.461	778.980	0.587
2002	2.000	9.860	400.000	0.406	802.350	0.634
2003	2.000	10.550	390.000	0.359	826.420	0.685
2004	2.000	11.290	380.000	0.314	851.220	0.740
2005	1.600	12.080	370.000	0.260	850.000	0.799
2006	1.280	12.920	360.000	0.229	850.000	0.863
2007	1.020	13.830	350.000	0.212	850.000	0.932
2008	0.820	14.790	340.000	0.193	850.000	1.007
2009	0.660	15.830	330.000	0.172	850.000	1.087
2010	0.520	16.940	320.000	0.149	850.000	1.174
2011	0.420	18.120	310.000	0.167	850.000	1.268
2012	0.340	19.390	300.000	0.186	850.000	1.370
2013	0.270	20.750	300.000	0.186	850.000	1.479
2014	0.210	22.200	300.000	0.186	850.000	1.598
2015	0.210	23.750	300.000	0.186	850.000	1.725
2016	0.210	25.420	300.000	0.186	850.000	1.863

PROJECTED STATE OF ALASKA NATURAL GAS REVENUES FROM
PRUDHOE BAY EXTRACTION & SALE THROUGH ANGTS

FISCAL YEAR	SEV.TAX	ROYALTY	AD VALOREM	PRODUCTION INCOME TAX	PIPELINE INCOME TAX	TOTAL GAS REVENUE	DISCOUNTED CASHFLOW
1987	0.000	0.000	540.000	0.000	211.500	751.500	385.630
1988	0.000	0.000	518.400	0.000	203.040	721.440	722.195
1989	0.000	0.000	496.800	0.000	194.580	691.380	1015.408
1990	34.992	36.323	475.200	0.000	186.120	732.635	1297.871
1991	118.222	179.571	453.600	19.588	177.660	948.641	1630.363
1992	195.864	320.847	432.000	43.106	169.200	1161.017	2000.299
1993	253.148	439.152	410.400	63.014	160.740	1326.453	2384.526
1994	264.243	473.335	388.800	68.914	152.280	1347.572	2739.383
1995	274.264	510.983	367.200	75.494	143.820	1371.761	3067.772
1996	272.257	552.993	345.600	83.201	135.360	1389.411	3370.148
1997	261.695	595.700	324.000	91.284	126.900	1399.578	3647.047
1998	276.739	643.648	302.400	99.686	118.440	1440.913	3906.208
1999	275.035	688.606	280.800	108.017	109.980	1462.438	4145.329
2000	280.801	736.029	259.200	116.640	101.520	1494.190	4367.430
2001	271.015	786.809	237.600	126.316	93.060	1514.799	4572.124
2002	255.735	841.833	216.000	136.950	84.600	1535.118	4760.709
2003	241.795	900.164	194.400	148.201	76.140	1560.700	4935.005
2004	226.419	962.687	172.800	160.306	67.680	1589.891	5096.420
2005	160.729	823.498	151.200	134.950	59.220	1329.597	5219.136
2006	121.180	704.121	129.600	112.730	50.760	1118.390	5312.975
2007	95.517	600.232	108.000	93.142	42.300	939.190	5384.615
2008	74.725	515.665	86.400	77.195	33.840	787.825	5439.245
2009	57.384	443.939	64.800	63.646	25.380	655.149	5480.545
2010	41.912	374.041	43.200	50.388	16.920	526.462	5510.716
2011	40.568	322.922	21.600	40.437	8.460	433.987	5533.326
2012	39.064	279.540	0.000	31.994	0.000	350.598	5549.931
2013	33.197	237.391	0.000	23.894	0.000	294.482	5562.611
2014	27.624	197.397	0.000	16.198	0.000	241.219	5572.053
2015	29.553	211.023	0.000	18.867	0.000	259.443	5581.285
2016	31.631	225.701	0.000	21.743	0.000	279.075	5590.313

INPUT ASSUMPTIONS FOR THE NORTHWEST ALASKA SEGMENT OF ANGTS

RATE OF INFLATION (PERCENT): 8.0%
COST OF CONSTRUCTION: 29700
ECONOMIC LIFE: 25
PERCENT EQUITY: 25.00%
DISCOUNT RATE: 10.00%
CNTR PT RATE OF RETURN: 17.5%
AD VALOREM: ORIGINAL COST

40% Cost Overrun Case
Rate of Return = 16.00%
Wellhead Price from Federal Inspector
Cost of Service Model

FISCAL YEAR	VOLUME	PRICE	WELLS	ELF	PROD. EXPENSE	FIELD COST
1987	2.000	0.000	550.000	0.840	500.000	0.200
1988	2.000	0.000	555.000	0.839	530.450	0.216
1989	2.000	0.000	560.000	0.837	546.360	0.233
1990	2.000	0.000	540.000	0.843	562.450	0.252
1991	2.000	1.030	520.000	0.826	579.640	0.272
1992	2.000	2.430	500.000	0.805	597.030	0.294
1993	2.000	4.060	490.000	0.773	614.940	0.317
1994	2.000	5.530	480.000	0.748	633.390	0.343
1995	2.000	5.970	470.000	0.719	652.390	0.370
1996	2.000	6.460	460.000	0.660	671.960	0.400
1997	2.000	6.960	450.000	0.589	692.120	0.432
1998	2.000	7.520	440.000	0.576	712.880	0.466
1999	2.000	8.050	430.000	0.535	734.270	0.504
2000	2.000	8.610	420.000	0.511	756.300	0.544
2001	2.000	9.210	410.000	0.441	778.980	0.587
2002	2.000	9.860	400.000	0.406	802.350	0.634
2003	2.000	10.550	390.000	0.359	826.420	0.685
2004	2.000	11.290	380.000	0.314	851.220	0.740
2005	1.600	12.080	370.000	0.260	850.000	0.799
2006	1.280	12.920	360.000	0.229	850.000	0.863
2007	1.020	13.830	350.000	0.212	850.000	0.932
2008	0.820	14.790	340.000	0.193	850.000	1.007
2009	0.660	15.830	330.000	0.172	850.000	1.087
2010	0.520	16.940	320.000	0.149	850.000	1.174
2011	0.420	18.120	310.000	0.167	850.000	1.268
2012	0.340	19.390	300.000	0.186	850.000	1.370
2013	0.270	20.750	300.000	0.186	850.000	1.479
2014	0.210	22.200	300.000	0.186	850.000	1.598
2015	0.210	23.750	300.000	0.186	850.000	1.725
2016	0.210	25.420	300.000	0.186	850.000	1.863

PROJECTED STATE OF ALASKA NATURAL GAS REVENUES FROM
PRUDHOE BAY EXTRACTION & SALE THROUGH ANGTS

FISCAL YEAR	SEV.TAX	ROYALTY	AD VALOREM	PRODUCTION INCOME TAX	PIPELINE INCOME TAX	TOTAL GAS REVENUE	DISCOUNTED CASHFLOW
1987	0.000	0.000	594.000	0.000	212.709	806.709	413.969
1988	0.000	0.000	570.240	0.000	204.200	774.440	775.251
1989	0.000	0.000	546.480	0.000	195.692	742.172	1090.004
1990	0.000	0.000	522.720	0.000	187.184	709.904	1363.703
1991	54.361	69.159	498.960	1.260	178.675	802.415	1644.944
1992	124.921	194.922	475.200	22.154	170.167	987.364	1959.549
1993	200.347	341.515	451.440	46.711	161.659	1201.671	2307.630
1994	264.243	473.335	427.680	68.914	153.150	1387.322	2672.956
1995	274.264	510.983	403.920	75.494	144.642	1409.302	3010.331
1996	272.257	552.993	380.160	83.201	136.133	1424.744	3320.397
1997	261.695	595.700	356.400	91.284	127.625	1432.704	3603.850
1998	276.739	643.648	332.640	99.686	119.117	1471.830	3868.572
1999	275.035	688.606	308.880	108.017	110.608	1491.146	4112.386
2000	280.801	736.029	285.120	116.640	102.100	1520.690	4338.427
2001	271.015	786.809	261.360	126.316	93.592	1539.091	4546.405
2002	255.735	841.833	237.600	136.950	85.083	1557.201	4737.701
2003	241.795	900.164	213.840	148.201	76.575	1580.575	4914.217
2004	226.419	962.687	190.080	160.306	68.067	1607.558	5077.425
2005	160.729	823.498	166.320	134.950	59.550	1345.055	5201.560
2006	121.180	704.121	142.560	112.730	51.050	1131.640	5296.519
2007	95.517	600.232	118.800	93.142	42.542	950.232	5369.000
2008	74.725	515.665	95.040	77.195	34.033	796.658	5424.243
2009	57.304	443.939	71.280	63.646	25.525	661.774	5465.961
2010	41.912	374.041	47.520	50.308	17.017	530.078	5496.385
2011	40.568	322.922	23.760	40.437	8.508	436.195	5519.110
2012	39.064	279.540	0.000	31.994	0.000	350.598	5535.716
2013	33.197	237.391	0.000	23.894	0.000	294.482	5548.395
2014	27.624	197.397	0.000	16.198	0.000	241.219	5557.837
2015	29.553	211.023	0.000	18.067	0.000	259.443	5567.069
2016	31.631	225.701	0.000	21.743	0.000	279.075	5576.097

APPENDIX E

STATE OF ALASKA

THE LEGISLATURE

1981

Source

FSS-FCCSSJR 4

Legislative Resolve No.

1

Proposing amendments to the Constitution of the State of Alaska relating to limiting increases in appropriations.

BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:

* Section 1. Article IX, Constitution of the State of Alaska, is amended by adding a new section to read:

SECTION 16. APPROPRIATION LIMIT. Except for appropriations for Alaska permanent fund dividends, appropriations of revenue bond proceeds, appropriations required to pay the principal and interest on general obligation bonds, and appropriations of money received from a non-State source in trust for a specific purpose, including revenues of a public enterprise or public corporation of the State that issues revenue bonds, appropriations from the treasury made for a fiscal year shall not exceed $7,500,000,000 by more than the cumulative change, derived from federal indices as prescribed by law, in population and inflation since July 1, 1981. Within this limit, at least one-third shall be reserved for capital projects and loan appropriations. The legislature may exceed this limit in bills for appropriations to the Alaska permanent fund and in bills for appropriations for capital projects, whether of bond proceeds or otherwise, if each bill is approved by the governor, or passed by affirmative vote of three-fourths of the membership of the legislature over a veto or item veto, or becomes law without signature, and is also approved by the voters as prescribed by law. Each bill for appropriations for capital projects in excess of the limit shall be confined to capital projects of the same type, and the voters shall, as provided by law, be informed of the cost of operations and maintenance of the capital projects. No other appropriation in excess of this limit may be made except to meet a state of disaster declared by the governor as prescribed by law. The governor shall cause any unexpended and unappropriated balance to be invested so as to yield competitive market rates to the treasury.

* Sec. 2. Article XV, Constitution of the State of Alaska, is amended by adding new sections to read:

SECTION 26. APPROPRIATIONS FOR RELOCATION OF THE CAPITAL. If a majority of those voting on the question at the general election in 1982 approve the ballot proposition for the total cost to the State of providing for relocation of the capital, no additional voter approval of appropriations for that purpose within the cost approved by the voters is required under the 1982 amendment limiting increases in appropriations (art. IX, sec. 16).

SECTION 27. RECONSIDERATION OF AMENDMENT LIMITING INCREASES IN APPROPRIATIONS. If the 1982 amendment limiting appropriation increases (art. IX, sec. 16) is adopted, the lieutenant governor shall cause the ballot title and proposition for the amendment to be placed on the ballot again at the general election in 1986. If the majority of those voting on the proposition in 1986 rejects the amendment, it shall be repealed.

SECTION 28. APPLICATION OF AMENDMENT. The 1982 amendment limiting appropriation increases (art. IX, sec. 16) applies to appropriations made for fiscal year 1984 and thereafter.

* Sec. 3. The amendments proposed by this resolution shall be placed before the voters of the state at the next general election in conformity with art. XIII, sec. 1, Constitution of the State of Alaska, and the election laws of the state.

STATE
of ALASKA

MEMORANDUM

TO: John Katz, Commissioner
Department of Natural Resources

DATE: February 25, 1981

FILE NO:

THRU: Ronald D. Lehr, Director RL
Division of Budget & Management
Office of the Governor

TELEPHONE NO:

SUBJECT: Report to Task Force on Financial Participation of the State in ANGTS

FROM: Ronald D. Ripple, Economist RDR
Division of Budget & Management
Office of the Governor

Marketability of Alaska Natural Gas

Purpose and Conclusion

The purpose of this report is to provide input into the interim report of the Governor's Task Force on Alaska Financial Participation in the Alaska Natural Gas Transportation System (ANGTS). In meeting that purpose this report encompasses two related issues. First, it provides a review of the Alaska natural gas marketability study prepared by the Jensen Associates, Inc. of Boston, Massachusetts. And second, using the Jensen study as a base, it lays the groundwork for further study of Alaska natural gas marketability including the effects of natural gas decontrol on marketability and on the wellhead value of Alaska natural gas.

The Jensen report, "The Demand for Alaska Natural Gas," was prepared for the Northwest Alaskan Pipeline Company and is the only study presently available on the subject of Alaska natural gas marketability. The Jensen report concludes that there will be a market for Alaska natural gas throughout the 25-plus year expected life of the project.

The conclusion of this interim report is that the marketability of Alaska natural gas is anything but certain, and likely to be much less certain than suggested by the Jensen report.

Jensen's assumptions

The primary assumptions upon which Jensen bases its conclusions are as follow:

1. The real price of crude oil will increase prior to 1985 natural gas decontrol under the Natural Gas Policy Act of 1978 (NGPA) and throughout the 1980's.

2. The prices of imported natural gas are tied to the price of crude oil while Alaska natural gas prices are not.

3. There will be an increase in natural gas demand which will be greater than the increase natural gas supply.

The one major obstruction to marketing Alaska natural gas in the lower-48 is the cost of transporting it from Prudhoe Bay. Individually, each of the above assumptions could be expected to lead to the conclusio.. that Alaska natural gas would be marketable. With the real price of crude oil increasing while natural gas wellhead prices are controlled, one would expect substitution of the relatively less expensive natural gas for oil. Furthermore, with the price of imported natural gas tied to crude oil -- the real price of which is assumed to be increasing -- while Alaska natural gas prices are not so tied, it would be expected that Alaska natural gas would become competitive relative to import natural gas and back the imports out of the market. The assumed additions to natural gas demand which exceed the additions to natural gas supply lead to the result that the market-clearing price will increase sufficiently to allow Alaska natural gas, with its roll-in pricing provision, to be competitive and hence marketable. Taken together, these assumptions appear to provide a very strong case for the marketability of Alaska natural gas. However, the solution to the marketability question is not quite that clear and/or easy.

To begin with, it is not clear that the real price of crude will increase between now and January 1, 1985. Even Jensen, in their summary for the Congressional hearings on the waiver package, adjusted their time frame for constant or declining real prices of crude. In the July 1981 study Jensen assumed that real prices would remain constant or decline through the end of 1982 and thereafter return to an increasing path. For the October 1981 Congressional hearings they conceded that it was more likely that "For the next year or so prices, indeed, are more likely to fall than to rise." Some observers suggest that the real price of crude will decline or remain constant throughout 1982 and 1983 with only modest increases through 1984. Moreover, the relevance of crude oil price changes between now and 1985 is questionable. Jensen notes that "...the markets which concern us are not those of October 1981, but those of 1987 and the years following." This, of course, assumes completion of the ANGTS to begin delivery during the winter of 1986-87. (Even Northwest is "seriously re-evaluating" this completion date.) It is, in fact, the markets of post-1987 that are of importance and the lack of relevance of October 1981 can be equally applied to the markets between now and 1985.

The implied relevance of the increasing real prices of crude oil is that natural gas, which is controlled during this time, will become relatively less costly and will be substituted for oil on the margin. This being the case, the market for natural gas expands prior to January 1, 1985. However, after January 1, 1985 -- assuming decontrol proceeds pursuant to NGPA -- over half of the natural gas will be decontrolled and allowed to attain its market-clearing level. Because a significant portion of the natural gas will still be controlled -- and therefore be priced at less than its market value -- the price of decontrolled gas will rise above its market value such that the average price of delivered gas (both controlled and decontrolled) will approach the free market market-clearing price. Hence, post-January 1, 1985 the market for natural gas will clear. Moreover, the natural gas markets will have been clearing for at least two or three years prior to the first delivery of Alaska natural gas, thus the relevance of the pre-1985 natural gas markets pales significantly.

The question of the ability of Alaska natural gas to back out the imports has both political and market answers. Politically, if the United States Government decided that it was in the nation's best interest to use domestic

energy sources rather than imports, it could restrict imports thus favoring Alaska natural gas regardless of relative prices. However, if left to the market, the ability of Alaska natural gas to back out import natural gas is not as straight forward as the Jensen report implies. The Jensen report provides an example of import natural gas prices being tied to crude oil price. They state, "Canada has announced a gas export pricing policy based on 'value substitution' or price linkage with imported Canadian crude oil." Although this statement gives credence to their argument, the very next sentences reduces the significance of the position. It states, "However, the decline in Canadian gas export demand has ameliorated the implementation of this policy (i.e., a planned October 1980 export gas price increase was delayed until April 1, 1981, and was then posted at $4.94/mcf -- below the possible crude oil-linked formula price)." Hence, politics aside, import gas pricing is sensitive to market share and the linkage is likely to be disengaged to preserve that share.

The extent of any increase in natural gas supply is quite difficult to estimate. Jensen provides various statistics which indicate that commercial gas finds are falling relative to drilling activity, and they conclude that supply will decline in the long run. Because an increase in drilling activity cannot guarantee an increase in deliverable gas, the fact that decontrolled wellhead prices will stimulate drilling activity does not insure increased gas supply. The major difficulty in determining the supply response to decontrol is the asymmetric treatment of wellhead price escalation under NGPA. It would appear that the NGPA would skew drilling activity toward the "high cost" gas which would likely lead to reductions in the rate-of-find ratios cited. Hence, movement toward a deregulated market may well provide drilling stimulus in areas which have been avoided since 1978 (due to lack of price incentives) thereby providing supplies of gas which seem out of character with recent experience. Thus, it appears that the supply estimates provided by Jensen are conservative -- and perhaps overly so.

Jensen's degree of conservatism in projecting natural gas supply disappears when estimating future natural gas demand. Jensen states that the demand by the residential and commercial sectors will remain relatively constant throughout the period of analysis, and that the driving force to the increased demand for natural gas will come from the industrial and electric utility sectors. The industrial sector consumed 40 percent of the natural gas used during 1980 and therefore is indeed important to the marketability of natural gas. However, the location of that sector is also important. Fifty percent of the gas consuming industrial sector is located in the West South Central (WSC) census region - Texas, Oklahoma, Louisiana, and Arkansas. Alaska natural gas will provide only 1.1 percent of the industrial gas usage of the WSC region. According to the schedule provided to the Congressional hearings on the natural gas waiver package by Northwest Energy, Inc. (dated 10/20/81), only 6.35 percent of Alaska natural gas will be effectively delivered to the WSC region. This implies that only 46.4 billion cubic feet (Bcf) per year of Alaska natural gas would "supplement" the supplies of the WSC region. During 1980, the industrial sector located in WSC consumed approximately 4,000 Bcf.

Furthermore, 62 percent of the natural gas consumed by all electric utilities was consumed by utilities located in the WSC region of the lower-48. These WSC utilities consumed over 2,000 Bcf during 1980, so the quantity of Alaska natural gas going to WSC amounts to only 2 percent of this region's electric utility natural gas consumption.

To summarize, Jensen explicitly states that the increased demand from the industrial sector and the electric utility sector will be the driving force in natural gas demand expansion which will enhance the marketability of Alaska natural gas. Fifty percent of the industrial gas users and 62 percent of the electric utility gas users are located in the WSC region of the U.S. where only 6.35 percent of the Alaskan natural gas will be shipped. The industrial and utility users of the WSC combine to consume over 30 percent of all lower-48 gas consumption (as of 1980) and Alaska will provide only three-fourths of one percent of that consumption. Hence, the significance of marginal adjustments in these two consuming sectors is limited as to the impact on the marketability of Alaska natural gas.

Moreover, this increasing demand scenario for the industrial and utilities sectors requires the existance and maintenance of an excessive differential between the price of natural gas and the price of residual fuel oil. The lack of likelihood and significance of such a pricing scenario were discussed above.

Conclusion

Therefore, while the Jensen report provides a basic framework for continued study, significant issues need to be addressed more fully before the marketability of Alaska natural gas can be assured with the conviction found in the Jensen report.

Issues for continued study

One issue of considerable significance is the structure of prices to be decontrolled relative to those which continue to be regulated in the markets which Alaska natural gas will be marketed. This is of importance when evaluating the effectiveness of the roll-in provision for Alaska natural gas pricing.

Another issue of importance is that of the method of natural gas price decontrol that will, in fact, exist. The Jensen study assumed the existing NGPA would run its course and decontrol (with some continued regulation) in 1985 would dictate the market structure to be faced. There are alternative decontrol schemes afoot and the probability of the implementation of any one of these is uncertain. These range from immediate, complete decontrol to extended NGPA-type controls into the mid-1990's. The markets for natural gas will likely differ considerably under each scheme. Hence, attention must be paid to the changes in the regulatory mood of the U.S. Congress.

MEMORANDUM

State of Alaska
Department of Revenue

TO: The Honorable Jay S. Hammond
Governor
State of Alaska

DATE: March 26, 1982

FILE NO:

TELEPHONE NO:

FROM: Thomas K. Williams
Commissioner
Department of Revenue

SUBJECT: March Revenue Forecasts

The March 1982 revenue forecast is now complete after as exhaustive a study as has been possible of the fast moving events recently occurring in the arena of oil.

The drop in FY 1982 total unrestricted revenues net of permanent fund from our January forecast of $4.3358 billion to our March forecast of $4.0444 billion amounts to $291.4 million.

The drop in FY 1983 total unrestricted revenues net of permanent fund from our January forecast of $4.1337 billion to $2.7477 billion amounts to $1.3860 billion. The drop for FY 82 and FY 83 combined amounts to $1.6774 billion. I should note at this juncture that the mean petroleum revenue projections were used for these two years, which is consistent with past forecasts.

The drop in FY 1984 total unrestricted revenues net of permanent fund from our January forecast of $5.0053 billion to $2.9906 billion amounts to $2.0147 billion. The latter represents the 30% cumulative frequency distribution case for FY 1984; that is, of the 500 computer-generated forecasts for FY 1984, only 30% were at or below this level. Seven times out of 10 the outcome was the same or greater. This is more consistent with the budgetary expectation that the predicted revenues will in fact be realized.

I have attached a detailed break down of all revenues which will appear in the soon-to-be-released March 1982 Revenue Source Book. The primary reasons for the precipitous drop in revenues center on events forcing oil prices downward.

The reasons are several-fold, including a continuing severe recession (not just in the United States, but worldwide as well), a current over-supply in world markets, and a continued effort on the part of the populace to practice conservation measures.

I anticipate the current lower prices to prevail for the intermediate term with gradual price increases thereafter -- barring, of course, any major disruptions in the world supply of oil due to natural or contrived conditions. The high prices of the past have spurred, however, substitution processes in many forms including the development of new energy sources, the retooling of industry to develop relatively energy efficient products, and the utilization of fuels other than oil. Hence, any future price increases will be dampened accordingly.

The changes in the non-petroleum picture have resulted in downward revisions as well. The investment earnings forecast for FY 83 has dropped from $315 to $200 million (see attached) due to the fact that the general fund balance will be less than previously calculated.

The non-petroleum corporate taxes in FY 83 have been revised downward slightly from $35 million to $32 million due to adoption of the more liberal provisions provided for in the Federal Economic Recovery Tax Act of 1981. The canned salmon tax has also been revised downward due to the current problems associated with that industry.

The forecast is indeed startling and reveals the unfortunate vulnerability of our State which is so dependent on a volatile source of income.

GENERAL FUND UNRESTRICTED REVENUES

(IN MILLIONS OF CURRENT DOLLARS)

	1981 ACTUAL	1982 ESTIMATE	1983 ESTIMATE	1984 ESTIMATE
TAXES				
INCOME				
CORPORATE-GENERAL	34.8	29.0	32.0	37.0
CORPORATE-PETROLEUM	860.1	684.0	258.0	307.0
FIDUCIARY	0.0	0.0	0.0	0.0
INDIVIDUAL	0.0	0.0	0.0	0.0
GROSS RECEIPTS				
ALASKA BUSINESS LICENSE	5.4	5.5	5.5	5.5
FISH-CANNED	5.9	5.0	5.0	5.0
FISH-SHOREBASED	11.0	11.2	11.0	11.0
FISH-FLOATING	3.8	4.0	4.0	4.0
SALMON ENHANCEMENT	0.0	2.4	2.4	2.4
INSURANCE COMPANIES	10.6	11.3	11.5	11.5
OTHER	1.2	1.3	1.4	1.4
SEVERANCE				
GRAVEL, TIMBER, ETC.	2.7	2.5	2.5	2.5
OIL AND GAS PRODUCTION	1170.2	1579.3	1120.8	1200.0
PROPERTY				
OIL AND GAS	143.0	143.7	148.6	153.2
VEHICLE REGISTRATION	0.2	0.0	0.0	0.0
SALE/USE				
ALCOHOLIC BEVERAGES	8.3	8.5	9.0	9.0
FUEL TAXES-AVIATION	4.1	4.3	4.5	4.7
FUEL TAXES-HIGHWAY	15.6	19.0	19.5	20.0
FUEL TAXES-MARINE	3.5	3.6	3.8	4.0
TOBACCO PRODUCTS	1.7	1.8	1.9	1.9
[illegible]				
STATE	0.5	0.5	0.5	0.5
SCHOOL	0.0	0.0	0.0	0.0
TOTAL TAXES	2282.6	2516.9	1641.9	1780.6
LICENSES & PERMITS				
BUSINESS	9.1	9.9	11.0	12.1
NON-BUSINESS				
MOTOR VEHICLE TITLES/REGISTRATIONS	11.6	12.0	12.5	13.0
OTHER NON-BUSINESS	0.6	0.5	0.5	0.5
TOTAL LICENSES & PERMITS	21.3	22.4	24.0	25.6
INTERGOVERNMENTAL RECEIPTS				
FEDERAL SHARED REVENUES				
MINERAL RENTS & ROYALTIES	1.2	13.2	4.0	4.0
OTHER FEDERAL SHARED REVENUES	7.2	5.8	5.9	6.0
TOTAL INTERGOVERNMENTAL RECEIPTS	8.4	19.0	9.9	10.0
STATE RESOURCE REVENUE				
SALE/USE				
BONUS SALES	7.6	1.5	0.0	0.0
INVESTMENT EARNINGS	227.8	290.0	200.0	225.0
RENTS	5.4	5.5	5.5	5.5
ROYALTIES	1118.5	1137.7	811.2	885.0

SALE OF STATE PROPERTY	4.8	5.5	5.5	5.5
FACILITIES RELATED CHARGES				
AIRPORTS	1.1	1.2	1.2	1.2
FERRY SYSTEM-SOUTHEAST	21.0	23.9	26.3	28.9
FERRY SYSTEM-SOUTHWEST	3.4	3.5	3.8	4.1
OTHER FACILITIES RELATED CHARGES	3.7	4.0	4.5	4.7
SERVICE RELATED CHARGES				
COURT SYSTEM	2.9	3.1	3.3	3.5
OTHER SERVICE RELATED CHARGES	4.1	4.5	4.7	5.0
TOTAL STATE RESOURCES REVENUES	1400.2	1480.4	1066.0	1168.4
MISCELLANEOUS REVENUE				
TOTAL MISCELLANEOUS REVENUE	5.5	5.7	5.9	6.0
TOTAL UNRESTRICTED REVENUES	3718.0	4044.4	2747.7	2990.6

STATE OF ALASKA
DEPARTMENT OF REVENUE
OFFICE OF THE COMMISSIONER

JAY S. HAMMOND, GOVERNOR

POUCH S
JUNEAU, ALASKA 99811
PHONE: (907) 465-2300

CHANGE IN PROJECTED GENERAL FUND REVENUES

BETWEEN THE JANUARY 1982 FORECAST

AND THE MARCH 1982 FORECAST

($ millions)

	FY 82	FY 83	TOTAL
January 1982 Forecast	4335.8	4133.7	8469.5
March 1982 Revised Forecast	4044.4	2747.7	6792.1
CHANGE IN FORECAST	-291.4	-1386.0	-1677.4

The Department of Revenue's newest forecast of unrestricted General Fund revenues for Fiscal Years 1982 and 1983 is sharply lower from the last forecast, which was made in December 1981 and issued early this past January. As the accompanying table shows, these revenues are now projected to be down by $291,400,000 in FY 82 and $1,386,000,000 in FY 83 -- a total reduction in expected income for this fiscal biennium of $1,677,400,000.

The reasons for this dramatic downward shift in revenue expectations are the State's inordinate dependence on petroleum revenues, the surprising slide in world oil prices occurring over the last two and a half months, and the present expectation that oil prices are likely to remain at or below their current depressed levels for some time before they could reverse direction and start moving back toward official OPEC price levels. The recent decision by OPEC to curtail its collective oil production was an unprecedented attempt by those nations to restore supply and demand -- a move which surprised a number of informed observers of the oil scene who were skeptical that the cartel could reach agreement on the subject, given the widely differing economic circumstances of the various OPEC members. The Department's earlier projections included the possibility of OPEC's taking this or similar action to counteract any market pressure to lower oil prices. After all, the whole purpose of forming a cartel is to overcome the normal economic forces that bring supply and demand into balance at the market price; cartels seek to impose a higher price and make it stick.

However, despite the fact that the OPEC action went in the only direction offering any real promise of returning prices to higher levels,

the extent of the overall production cutback seems to be too small to achieve that result. Further production cutbacks will probably have to be agreed upon by OPEC in order to accelerate a return to higher oil prices, or else it is likely that those OPEC members most strapped for revenue will start to break ranks from the cartel's official policy and start selling their oil production at discounted prices again in order to elevate their revenues through the sale of more oil. Although there was some brave talk by a few of the OPEC ministers at Vienna about their willingness to endure even further production cutbacks in order to restore a supply/demand balance artificially, it does not appear likely that the cartel has the collective ability to do so to any significant degree except for very short periods of time. In addition, it appears possible that additional production from non-OPEC sources might also become available, which would offset the OPEC cutback and thereby delay or prevent worldwide supply from balancing with the present level of worldwide demand.

Besides these gloomier considerations on the supply side of the world oil market, prospects for any significant increases in demand have become less likely since we prepared the last forecast in December. The recession in the United States is deeper and appears to be longer lasting than many had then expected. The prospects of recovery seem at this time to depend considerably on the ability of the federal government to reduce the enormous budget deficits that are projected. The sharp decline in world oil prices has depressed domestic oil prices, not only for production in Alaska but elsewhere in the nation as well. One consequence of this is a steep reduction in the amount of windfall profit tax that will

be collected. This makes it even more difficult to straighten out the federal budget problem and makes it more likely that the U.S. Treasury will be obliged to continue its extremely heavy schedule of borrowing from the money market, thereby keeping interest rates at their extraordinarily high levels. High interest rates, of course, weaken the ability of the U.S. economy to begin the economic upsurge which the Reagan administration's fiscal and monetary policies are intended to stimulate. Thus, economic recovery will be slow at best for at least a number of months, and this implies that U.S. oil consumption will continue to be relatively low. With the largest single market for crude oil continuing in the doldrums this way, there seems little likelihood that demand elsewhere will pick up to the point so that the present worldwide crude oil surplus will evaporate any time soon.

Thus, considerations on both the supply side and demand side of the economic equation for oil prices strongly suggest that the possibilities for upward oil price movement are very much less likely than they appeared in December. The reduction in the State's revenues reflects the elimination of these "upside" possibilities. In addition, we now foresee greater probabilities of the downward price cascade continuing or halting only temporarily, which means we have increased the likelihood assigned to the "downside" revenue possibilities.

Technical Note. The figures presented in the revised revenue forecast for Fiscal Years 1982 and 1983 represent the mean, or average, outcome of the 500 different forecasts generated by the computer model. This is consistent with the prior practice of the Department. However, beginning with this revenue forecast, the projections for FY 84 and be-

yond are based on the 30th percentile of outcomes; that is, of the 500 different computer-generated projections, only 30 percent of them were at or below the 30th percentile. Seven times out of ten the projection came out at or above this "30% figure." In taking this step the Department is recognizing the great reliance placed in the budgetary process on its revenue forecasts and the expectation that the predicted amount of revenues will in fact be realized.

As a matter of information, the "30% figures" for FY 82 and FY 83 are $3,942,400,000 and $2,515,700,000, respectively. If these were used for the forecast instead of the average outcomes, the combined revenue projection for both fiscal years would be down another $334.0 million from the revenue forecast issued last January.

STATE OF ALASKA
DEPARTMENT OF REVENUE
OFFICE OF THE COMMISSIONER

JAY S. HAMMOND, GOVERNOR

POUCH S
JUNEAU, ALASKA 99811
PHONE: (907) 465-2300

February 10, 1982

Mr. Kenneth F. Seplow
Mr. Roger Pyle
Mr. Joseph M. Schell
Vice Presidents
Kidder, Peabody & Co.
10 Hanover Square
New York, NY 10005

Re: Gasline Financing Options - Overview of Financing Mechanisms Available to the State of Alaska

Gentlemen:

You have requested an overview of the various financing mechanisms available to the State of Alaska which might be considered by yourselves in responding to the financial plan presented by Northwest Alaskan Pipeline Company or in developing a proposal for the State for an appropriate means of participating in the financing of the ANGTS, assuming it is determined that state investment is both prudent and necessary for the successful completion of the pipeline project. The mechanisms which I will discuss will be familiar to you I am sure and, therefore, I will not belabor the general concepts and I will only emphasize those constitutional and statutory considerations which might be peculiar to the Alaska context. I have also tried to compile the specific legal opinions and financial opinions of state counselors and advisors who have participated in various aspects of this general problem in the past. I will not attempt, at this time, to discuss the relative merits of the State's participation in the financing of the gas pipeline as an equity owner, as a lendor, or as both, since it is my understanding that that review is initially part of your charge.

A. Issuance of General Obligation Bonds:

The first general limitation on the power to contract debt is contained in Art. IX, § 6 of the state constitution which prohibits the use of the "public credit . . . except for a public purpose." The Alaska Supreme Court has construed the public purpose requirement very broadly and stated that it would defer to legislative findings in this regard unless they are found to be clearly arbitrary. See DeArmond v. Alaska State Development Corp., 376 P.2d 717 (Alaska 1962). Thus, any project which generally advances the social and economic interests of the State will be found to satisfy this provision.

Article IX, § 8 of the Alaska Constitution sets out the exclusive method by which the full faith and credit of the State of Alaska may be pledged to guarantee obligations of the State. It provides in part:

> No state debt shall be contracted unless authorized by law for capital improvements and ratified by a majority of the qualified voters of the State who vote on the question . . . . (Emphasis added.)

In 1979 Representatives Gardiner and Miles of the Alaska State Legislature requested an opinion from their legal services division concerning the constitutionality of issuing general obligation bonds for the purpose of purchasing a $500 million equity interest in the Alaska gasline project. The response by Mr. Berrier dated March 1, 1979, concluded that, although the public purpose requirement of the Alaska Constitution would be satisfied, the purchase of an equity interest in a pipeline company would probably not qualify as a "capital improvement" on the basis of existing case law. (Attachment 1) He observed that the term "capital improvement" was no doubt intended to be given a liberal construction by the framers of the constitution and the leading cases he was relying on - City of Juneau v. Hixson, 373 P.2d 743 (Alaska 1962) and Wright v. City of Palmer, 462 P.2d. 326 (Alaska 1970) - in fact interpreted the parallel term for issuance of local debt in Art. IX, § 9 of the Alaska Constitution, not the language of § 8. Mr. Berrier, admitting that the question was by no means clear, stated that, in his opinion, purchase of equity related securities was not the type of asset the court meant by terms like "permanent asset in the form of real or personal property" and "tangible asset in place of the indebtedness."

In order to finally resolve the question the Commissioner of Revenue requested an opinion of Wohlforth & Flint, bond counsel for the State Bond Committee, on the same subject. In an opinion dated July 9, 1979, Eric Wohlforth essentially confirmed the opinions of Mr. Berrier on both issues - the issuance of general obligation indebtedness for purchase of an equity interest in the gas pipeline would satisfy the public purpose test but that such an interest would not constitute a capital improvement required by Art. IX, § 8 of the Alaska Constitution. (Attachment 2) The opinion stated:

> Only the retention by the issuer of some interest in the capital improvement, however, is required; full public ownership of the capital improvement with the right of conveyance is not . . . . [T]he court implicitly recognizes that as long as the disposition of "capital improvements" acquired through general obligation indebtedness accompanied by a security arrangement protective of the issuer's indebtedness, the constitutional restriction is satisfied . . . . [T]he court in Hixson may be said to have endorsed the view . . . that municipal acquisition of a capital improvement clearly comprehends that acquisition of

> secured rights in a capital improvement without, necessarily, ownership and title.
>
> . . . . .
>
> The proposed investment of state general obligation bond proceeds in the pipeline easily meets the foregoing "physical" enumerated requisites of the "capital improvements" restriction. The incurring of such debt would be "for capital improvements" because the ultimate result would be the financing of a pipeline. Pipelines come within the constitutional definition of "capital improvements" because they constitute depreciable property of relatively permanent value. However, the state must acquire sufficient legal interest in the capital improvement to overcome the constitutional deficiencies set forth in Hixson. An investment by the state of bond proceeds in "equity related securities" does not meet this test. The financing must be accompanied by some form of interest in the pipeline. Clearly, the interest would have to be equivalent in value to the amount of bond proceeds devoted to its acquisition. (Bond Counsel Opinion, pages 11, 14-15).

A review of the relevant constitutional provisions and the above legal opinions relating to the referenced proposal for gasline financing then would suggest the following general conclusions:

First, the issuance of general obligation bonds to purchase equity related securities in a pipeline company is unconstitutional.

Second, the issuance of general obligation bonds to raise money to loan to the Project Sponsors, e.g. to purchase corporate bonds or to create a reserve fund to serve as a guarantee or to merely pledge the State's full faith and credit up to a stated amount for purposes of guaranteeing an agreed upon portion of the project financing would likewise violate Art. IX, § 8 of the Alaska Constitution since it would not be for a capital improvement. This is important given my perception of the rather casual references made by the representatives of the Northwest Alaska Pipeline Co. and by their financial advisors to the ability of the State to participate by providing several billion dollars of debt financing or guarantees. No such ready access to the State's credit exists. In addition, AS 37.10.085 specifically prohibits the State from lending its credit for the use of a corporation or from borrowing money for the use of a corporation.

Third, the issuance of general obligation bonds to acquire a direct interest in the pipeline or some related portion of the project, e.g. the conditioning plant, would be constitutional. Bond counsel has suggested that there may be forms of direct interest in the pipeline short of

ownership which may be constitutionally permissible "capital improvements." That interest would have to be specifically defined through negotiations with Northwest Alaska Pipeline Company, the producers, and other interested parties, incorporated into a firm financial plan and might possibly require approval from FERC before such a general obligation bond issue could be authorized by law. Mr. Wohlforth's opinion makes it clear that lack of a consummated transaction or a firm financial agreement in existence at the time of the voter approval would be another cause for constitutional concern. He stated:

> This lack of commitment on the part of a second party to grant some type of interest in the property conveyed to it by the issuers and financed with general obligation bond proceeds further contributed to the constitutional defectiveness of the planned transaction in Hixson [i.e., to offer land to the state for capital site construction]. (Bond Counsel Opinion, page 10)

Assuming a viable plan for utilizing this power is proferred or developed, there are, of course, several other practical and political considerations which should be briefly mentioned in this context, in addition to these constitutional parameters on the state's bonding authority:

1. The general obligation bond approach would involve the following steps: (a) a bill authorizing the issuance of, for example, $1 billion dollars in bonds would have to be enacted which, in turn, assumes the finalization of the financial plan of the Project Sponsors, definition of the interest to be acquired by the State, or decisions relating to the portions of the project to be owned by the State and to be constructed based on reasonable cost estimates; (b) it would have to be approved by the voters where it might find itself in competition with other priority proposals; (c) the proposal would have to be scrutinized by Bond Counsel and by the Financial Advisor to the State Bond Committee, presently John Nuveen & Co., prior to the actual issuance of the bonds. Recently, John Nuveen & Co. has advised the State Bond Committee that the maximum amount of bonds which could be sold annually over the next few years should not exceed $400 million, $200 million at a time, in order to safeguard the current credit ratings of the State (AA for Moodys and AA- for Standard and Poors). Thus, assuming this advice continues, raising the billion dollars for the project would take a minimum of two and a half years after the next general election and would absorb most of the total state access to the credit markets for a three-year period.

2. Governor Hammond in his Budget Address and several key legislators in both houses of the State Legislature have expressed serious reservations about the advisability of utilizing the turbulent national credit markets during periods of substantial state surpluses and instead they have indicated a preference for a pay-as-you-go approach. The Administration has decided not to propose any GO funded projects which

would otherwise have to be approved at the next general election this November.

3. Interest Rate Limits: AS 37.15.030 requires that each issue or series of bonds shall bear interest at an effective rate over the life of the bonds not to exceed 10 percent a year. Given the last two years' experience in the bond markets, the interest limitation remains a significant inhibitor on the ability of the State to go to market, no matter what the amount of the bonds actually authorized by law and by the voters. Thus, any serious effort to utilize the General Obligation bond approach would have to contemplate amendments to this provision which would guarantee the ability of the state to sell the bonds authorized for this project.

B. Exercise of the Appropriation Power:

For purposes of this discussion of potential methods of state involvement in pipeline financing, the appropriation power is perhaps the single most important because it is the most flexible. Art. IX, § 13, of the Alaska Constitution provides that all public monies must be spent in accordance with appropriation made by law. This legislative power is limited primarily by the "public purpose" requirement of Art. IX, § 6. As I mentioned previously in connection with general obligation bonds, this requirement has been liberally construed by the courts and great deference is given to legislative findings concerning what constitutes a public purpose. Although it is obviously dependent on the specific facts of the actual financial transaction involved, monies appropriated for purposes of facilitating the financing and construction of a gasline and the marketing of a major state resource would in almost all cases satisfy this requirement. Monies properly appropriated could be used to loan to the Project Sponsors, to purchase an equity interest in the pipeline, or to build on behalf of the State any specific portion of the pipeline facility. These monies could also be set aside in a reserve fund to act as a guarantee mechanism should that option be found to be a desirable investment strategy for the state.

There are, however, other limitations on this appropriation power of which you should be aware in conducting your analysis and in preparing your recommendations.

1. Prohibition against Dedicated Funds: Art. IX, § 7 of the Alaska Constitution provides in pertinent part:

> The proceeds of any state tax or license shall not be dedicated to any special purpose, except as provided in Section 15 of this article or when required by the federal government for state participation in federal programs.

The first question that arises upon reading this provision is whether royalty revenues can be dedicated. Although I am not aware of any Alaska Supreme Court decision on the subject, the Alaska Attorney General's Office did rule in an opinion dated May 2, 1975, that the prohibition on dedications could be given the effect intended by the framers of the constitution only if the words "proceeds of any tax or license" are interpreted to include the sources of any public revenues. The opinion concludes that the constitutional provision was concerned with problems relating to earmarking funds - not with the source of the funds. All monies from state royalties, lease bonuses, land rentals and sales and other resource related revenues are considered subject to this constitutional restriction.

Thus, future tax and royalty revenues cannot be appropriated, pledged or otherwise committed by this Legislature in order to assist in financing the gasline.

2. Exceptions to the Prohibition against the Dedication of Funds:

In 1977, the Alaska Permanent Fund was established by amendment to the State Constitution. Art. IX, § 15, provides:

> Section 15. Alaska Permanent Fund. At least twenty-five per cent of all mineral lease rentals, royalties, royalty sale proceeds, federal mineral revenue sharing payments and bonuses received by the State shall be placed in a permanent fund, the principal of which shall be used only for those income-producing investments specifically designated by law as eligible for permanent fund investments. All income from the permanent fund shall be deposited in the general fund unless otherwise provided by law [Effective February 21, 1977].

Monies dedicated to the Permanent Fund are then beyond the appropriation power of the State Legislature. The contribution rate was increased to 50 percent in 1980 to apply to lease sales occurring after the Beaufort Sea sale and to production from future leases (including Beaufort Sea). Cook Inlet and Prudhoe Bay royalties remain subject to the 25 percent contribution rate. See AS 37.13.010(a). For instance, the current estimate of the royalty contribution to the Permanent Fund for FY 83 is $441.7 million. The January 1982 issue of Revenue Sources: FY 81-84 includes only unrestricted royalties i.e., the net balance after permanent fund deductions or $1,325.2 billion for FY 83. The Petroleum Production Revenue Forecast: December 1981 reports gross royalty revenues. Thus, you should be aware of this critical distinction which is made in those materials which I previously provided to you. In any event, it is clear that the dedication of substantial revenues to the Permanent Fund operates, as it was expressly intended to, to limit the monies available to any given legislature for expenditure.

The Permanent Fund provision, itself an exception to the dedication of revenues prohibition, also provides for an exception in the case of income generated by the fund. The total income of the fund available for disbursement, as defined by AS 37.13.140, is as follows:

FY 77	27,019
FY 78	900,434
FY 79	5,702,926
FY 80	23,675,560
FY 81	68,390,000
FY 82 Estimate	137,000,000
FY 83 Estimate	205,000,000
FY 84 Estimate	264,000,000

Presently 50 percent of the income from the permanent fund is dedicated to the dividend fund established by AS 43.23.050 to pay for the permanent fund dividend program.

Dedications of 50 percent of permanent fund earnings might be considered in your analysis although short term the funds available are de minimis in relation to the several billion dollar gap in the financial plan outlined by the Project Sponsors. In addition, suggested dedications would conflict with the policy recommendation of the Board of Trustees of the Permanent Fund Corporation which proposes that 50 percent of earnings be returned to the Permanent Fund to help protect the fund principal from erosion due to inflation.

3. Spending Limits: Last year the Alaska State Legislature was called into Special Session after it adjourned a general session without acting on the Governor's spending limit proposal. The outcome of the Special Session was a proposed amendment to the Constitution which would further limit the appropriation power of the Legislature. (Attachment 3 - Legislative Resolve No. 1, FSSLA 1981.) The proposed spending limit would take effect in FY 84 technically but the Governor has formulated his FY 83 budget in accordance with its provisions and he has vowed to enforce the principles of the limit with his veto power. The limit on general appropriations for operating and capital budgets was set at $2.5 billion adjusted by inflation and population changes from a base year of July 1, 1981. One third of this amount must be reserved for capital projects and loans. Appropriations in excess of the limit must be approved by the voters on a project-by-project basis. Certain types of appropriations e.g. for debt service on general obligation bonds and for permanent fund dividends are expressly exempted from this limit. It should be added that concerns over government growth and spending limits are serious political issues this year and that the approval of this limit or a substantially similar one is very likely.

For the FY 82, FY 83 and FY 84 fiscal years, using the spending limit formula, the Governor's budget and the January 1982 Revenue Forecast the following figures apply:

Carryforward Balance (cash) from FY 81	490.8
FY 82 Revenues	4335.9
FY 82 Lapse	50.0
FY 82 Loan Repayments	24.0
FY 82 Appropriations: original	-5209.1
supplemental	- 50.0
Carryforward Balance from FY 82	(358.4)
Prior Year Appropriations effective in FY 83	- 409.2
Balance - start of FY 83	(767.6)
FY 83 Revenues	4133.7
FY 83 Loan Repayments	24.0
Net Available Revenues, FY 83	3390.1
FY 83 Spending Limit	2800.0
FY 83 Permanent Fund Dividend	- 150.4
FY 83 Debt Service	- 141.7
Excess Available for Voter Approval capital, FY 83	298.0

Carryforward Balance from FY 83	0
Prior Year Appropriations effective in FY 84	- 200.0
FY 84 Revenues	5005.3
Net Available Revenues, FY 84	4805.3
FY 84 Spending Limit	-3136.0
FY 84 Perm. Fund Dividend and FY 84 Debt Service	- 350.0
Excess Available for Voter Approval capital, FY 84	1319.3

The total available for capital appropriation for the year FY 83 (less debt service and permanent fund dividends) and assuming no major incursions into normal operating budgets will be:

FY 83	FY 84	
$ 933.3	$1,045.3	1/3 of spending limit
298.0	1,319.3	voter approval
$1,230.4	$2,369.6	

For the combined years of FY 83 and FY 84 the figure would be $3,595.0 million. Subject to normal and assumed forecasting risks, this is the maximum amount of near term revenues the state might have available to commit to a gasline assuming no loan programs and no new roads, bridges, dams, or other state and local projects get funded - which, of course, would never be the case.

In addition, two other joint resolutions have been introduced this year at the request of the Governor which could have significant long-term impacts on revenues available for appropriation. SJR 65 is referred to as the spending limit codicil and it provides for a limit on the amount of voter approval capital of 50 percent of the amount in

excess of the limitation. For FY 84 that would mean an additional $660 million would be unavailable for any appropriation. In addition, all projects which fail to obtain voter approval would automatically become contributions to the Permanent Fund.

Another constitutional amendment proposed by the Governor this year is an amendment to the Permanent Fund section, Art. IX, § 15, to include 25 percent of severance tax revenues as part of the mandatory contribution to the Permanent Fund. See SJR 58. This would severely impact revenues available for appropriations. For instance, in FY 84 the unrestricted revenue total of $5,005.3 million would be reduced by $553.4 as a result of such a measure. Whether or not these latter provisions are ultimately submitted to the people as proposed constitutional amendments, suffice it to say that Governor Hammond and this Legislature have other important priorities which while not in conflict with the idea of participating in pipeline financing compete directly with those monies immediately available for appropriation -- especially in the absence of the existence of a concrete and viable financing proposal from the Project Sponsors against which other projects and goals could be evaluated.

4. Multiple Year Appropriations: The appropriation of monies due to be received in years subsequent to the year for which the legislature is preparing a budget is apparently permissible under the state constitution. However, those appropriations are subject to repeal and revision by subsequent legislative enactments. Thus, an attempt to provide financing on the basis of, for instance, a bill appropriating several hundred million dollars for FY 83-84 revenues would be subject to repeal by the next legislature should it determine it did not wish to spend available revenues in that manner. If this were not the case, the dedication prohibition would be too easily circumvented.

AS 37.25.020 states that an appropriation for a capital project is valid for the life of the project and the unexpended balance may be carried forward to subsequent years. This provision is, of course, valid only in cases where the appropriation is of actual, current revenues which may be set aside for the project rather than future or speculative revenues subject to the appropriation powers of future legislatures.

One of the more creative efforts at encouraging subsequent year appropriations is contained in Ch. 118 SLA 1981 establishing the Power Project Development Fund, AS 44.83. AS 44.83.490(b)(2) provides that, if by July 1, 1986, the legislature has not appropriated at least $5,000,000,000 to the fund, the statewide wholesale power rate applicable to all power projects that the State has acquired or constructed under the Energy Program for Alaska would be converted from state grants to a 10 percent equity return recoupable through an increased rate base calculation. The proponents of this bill were attempting to insure the successful funding of the Susitna Dam project presently estimated at

$5.2 billion and designed to deliver cheap power to the railbelt. By providing grants for smaller power projects statewide benefitting several communities, the Act attempted to create a constituency to support the contruction of the Susitna Dam project. Obviously, to the extent the provisions of Ch. 118, SLA 1981 represent a political compromise of various interests and the consensus political position, the demand on monies available for appropriation for the foreseeable future would foreclose any realistic possibility of significant sums being available for pipeline financing. However, future legislatures could reach different conclusions and decide to repeal the condition subsequent contained in AS 44.83.490(b)(2).

C. Investment Powers of the State

1. State Funds: The Department of Revenue is currently responsible for managing three major funds: the General Fund, the Teacher's Retirement System and the Public Employee's Retirement System. The General Fund is the primary account for all surplus state funds where they are held to meet day to day operating expenses of state government and to pay out expenditures related to capital projects. The General Fund balance as of November 30, 1981, was $1.8 billion. The list of permissible investments is set forth in AS 37.10.070. (Attachment 4.) Subsection (a)(4) permits investment in corporate debt securities with a minimum rating of "BAA" or the equivalent by a nationally recognized rating organization and the preferred and common stocks of companies which have paid dividends continuously for the last three years. Subsection (a)(5) allows investment in commercial paper bearing the highest rating of a nationally recognized rating organization. Even assuming the Project Sponsors were to obtain ratings which would qualify as debt securities or commercial paper for investment by the state, it is extremely doubtful that the General Fund would be in a position to contribute significantly to the gas pipeline financing effort. Given the general mandate to manage the fund in accordance with generally accepted standards of institutional investors (AS 37.10.070(b)), given the need to keep the general fund highly liquid to meet day-to-day costs of operating state government, and given the current mandate to deposit excess general fund revenues up to $1.8 billion dollars into the permanent fund (with a minimum of $1.4 billion having to be deposited by the end of this fiscal year), the current administration would not have any significant funds available for such investment in the near future. See Ch. 61 SLA 1981. In addition, neither this administration nor future ones would be likely to want to make any substantial long-term commitments of state funds involving a major state policy decision of this type solely through the exercise of the state investment power without review and approval by the legislature and without an express appropriation or authorization for that purpose.

The Public Employee's Retirement System (PERS) (net balance as of November 30, 1981 - $567.6 million) and the Teachers Retirement System

(TRS) (net balance as of November 30, 1980 - $415.7 million) are managed by the Department in a fiduciary capacity on behalf of employees and retired pensioners with vested interests in the respective pension funds. The list of permitted investments are set forth at AS 39.35.110 for PERS and at AS 14.25.180 for TRS and they both include corporate debt securities with a minimum rating of "A" and commercial paper bearing the highest interest rating of a nationally recognized rating firm. Both funds may not be invested more than 50 percent in corporate debt securities or corporate stocks at any given time. Even assuming Project Sponsors were able to issue debt with the requisite national ratings, prudent fund management practices and various express statutory provisions which dictate diversification when combined with the limited size of the funds themselves would not allow them to be invested significantly in a gas pipeline financing. Also, sound political practice would also dictate not utilizing the funds for such a purpose no matter how arguably attractive such an investment might be considered by fund managers since a state policy decision to invest in a gasline should be implemented directly with state funds not indirectly through trust fund holdings.

2. Permanent Fund: The Alaska Permanent Fund is managed by a six member Board of Trustees consisting of three commissioners and three public members all appointed by the Governor and confirmed by the Legislature. This Board provides general policy direction and has delegated day to day fund management activities to the Treasury Division of the Department of Revenue. The Board is requesting in the FY 83 budget funding for an Executive Director and a permanent staff to help it realize the goal of an independent Permanent Fund Corporation totally free of responsiblity to a given Commissioner and a particular Administration and solely accountable to the Board. See AS 37.13.040 and .100 in Attachment 5. The Board is directed to be guided by the prudent man rule as it applies to institutional investors and to follow a policy of reasonable diversification. The approved investment list includes corporate debt securities which are rated AA or better by a nationally recognized rating service.

Currently, the balance of the permanent fund is approximately $3 billion dollars and the estimated balance as of July 1, 1982, is $3.75 billion. Obviously, it is a potential source of capital theoretically available for support of the gasline financing project. However, under current statutes and diversification policies, it is doubtful that the Board of Trustees could be expected to find a major contribution to the gasline debt financing to be prudent. Thus, although the Permanent Fund has been suggested by the Project Sponsors as a funding source, several practical and political problems have to be considered.

The investment philosophy presently reflected in AS 37.13 is the result of one of the most bitterly contested political issues resolved during the Hammond Administration. It reflects a conservative fiduciary

concept designed to promote conservation of the trust corpus by permitting the fund to be invested in high quality securities by an independent Board insulated in part from changing political philosophies evidenced by a new Administration and new Legislatures. The present charter reflects a deliberate rejection of arguments made to utilize these monies to fund state loan programs and vast capital projects, e.g. hydroelectric dams, and other major developmental projects. The request to utilize the Permanent Fund for gasline financing might be perceived by those many Legislators on both sides of the issue as an invitation to reopen the debate. Thus, any investment plan presented to the Board which would require legislative enactment would be looked upon with great concern by all interested in fund management issues. Indeed, even if a bill were passed specifically authorizing the investment, it is doubtful that the Governor or the Legislature would impose the decision on the Board. The three public members could block the investment should they consider it imprudent/or other investments more prudent.

Thus, on Permanent Fund issues the Project Sponsors are dealing with three entities - the Governor, the State Legislature and the Board of Trustees - managers of an independent fund. It should be noted that the Governor at the request of the Board has sponsored SB 684 which would make many technical changes to the Permanent Fund statutes. (Attachment 6) Therefore, should the decision be made to recommend changes in the statute for purposes of facilitating financing of the gas pipeline a legislative vehicle does exist. Furthermore, it is recommended that any change be as narrow as possible, i.e., specifically aimed at permitting participating at an expressly authorized level in a certain type of financing, e.g. $500 million of corporate bonds. By stating an authorized level of participation, it would relieve Board members of concerns about liability for violating the prudent man rule and other statutory policies relating to diversification.

D. Revenue Bonds: Tax Exempt Financing

The use of industrial development bonds (IDB's) to provide financing for the pipeline or for portions thereof, or for related facilities, e.g., the conditioning plant, has been the subject of much discussion for several years. Section 103(b)(4) of the Internal Revenue Code provides a definition of certain "exempt activities" which can be financed through the issuance of revenue bonds in any amount. Those most likely to be relevant here are subsections E and F which read:

. . .

(E) Sewage or solid waste disposal facilities or facilities for the local furnishing of electric energy or gas,

(F) air or water pollution control facilities.

. . .

> For purposes of subparagraph (E), the local furnishing of electric energy from a facility shall include furnishing solely within the area consisting of a city and one contiguous county.

The Internal Revenue Service has interpreted "local furnishing of gas" to involve the same basic restrictions. IRC Reg. § 1.103(f)(2).

Thus, this section prohibits financing multistate/multinational pipeline facilities by issuing IDB's. It does authorize the use of IDB's to fund air and water pollution control facilities. To my knowledge, the Project Sponsors have never approached the state with a proposal for financing specific pollution control facilities which might be required as part of the overall pipeline system. Certain other small issue exemptions exist under § 103(b) of the IRC (less than $1,000,000 and other types less than $10,000,000) but these are not relevant when one considers the massive amount of financing assistance the Project Sponsors require.

1. Alaska Gas Pipeline Financing Authority, AS 44.82.

It is my understanding that the representatives of the Project Sponsors approached Administration and Legislative leaders in 1978 and requested that the state create a financing authority in anticipation of an amendment to § 103(b) of the IRC which the Project Sponsors would seek in Congress. In response to that request and as a sign of good faith the Alaska State Legislature founded the Alaska Gas Pipeline Financing Authority, AS 44.82, which was a public corporation with a legal existence separate and apart from the State. (Attachment 7) The Commissioner of Revenue, who is the chairman, the Commissioner of Commerce and Economic Development and the Commissioner of Natural Resources constitute the authority. The Authority was authorized to issue up to $1 billion of tax exempt revenue bonds. It was required to submit a detailed financial and Alaska impact plan during the Eleventh State Legislature (1979-1980) which had to be approved by concurrent resolution. The Authority ultimately introduced two Financial and Alaska Impact Plans for 1979 and for 1980. (Attachments 8 and 9) These submissions were more on the order of status reports which indicated why various delays in FERC proceedings and other uncertainties made it impossible to present a detailed plan. I am unaware of any evidence of a significant lobbying effort ever launched by the Project Sponsors to secure the necessary amendments to the IRC which would have rendered the Authority a viable entity.

In the meantime, the Administration continued work on issues relating to the existence and effectiveness of the Authority. Since some earlier commentary on the Authority suggested the existence of technical drafting problems, the firm of Preston, Thorgrimson, et al., was retained to review the Authority's legislation and to recommend appropriate statutory changes. See Legal Opinion of Preston, Thorgrimson, Ellis, Holman and

Fletcher to Commissioner Williams dated September 21, 1979 (Attachment 10). This advice was ultimately acted upon in 1981. At that time, HR 197 was introduced at the Governor's request in an attempt both to cure the defects and to revive the moribund authority whose existence had been tied to the Eleventh Legislature. (Attachment 11)

In addition to the substantial legal reviews of the Authority's charter, the Department of Revenue secured two financial opinions on the impact of $1,000,000,000 revenue bond issue on the State's general credit rating - one from John Nuveen and Co. dated September 24, 1979, and one from Dillon, Read and Co., dated September 19, 1979. (Attachments 12 and 13) Both concluded generally that a pure revenue bond financing in that amount would not affect the State's general credit rating. Nuveen and Co. added that there would be no impact provided that the revenue bonds were adequately secured by a combination of pipeline revenues and the financial resources of the other participants. The State's credit rating would be involved if any of the following security features are employed: 1) full faith and credit guarantee; 2) guarantee by the Permanent Fund; 3) a make up provision to restore deficiencies in reserve accounting; or 4) an obligation to issue or purchase completion bonds.

2. Alaska Industrial Development Authority (AIDA), AS 44.88

AIDA was created as a vehicle to facilitate the importation of capital for business loans by the issuance of industrial development bonds allowed under § 103 (b) of the Internal Revenue Code. Although its charter was substantially broadened in 1981 by Ch. 115, SLA 1981 that basic mission remains unchanged. (See Attachment 14) AIDA is authorized to issue tax exempt bonds concerning any of the exempt types of projects currently permitted by the Code, e.g., for air and water pollution control facilities. Assuming § 103 of the IRC was amended to allow financing of interstate pipelines, it is unclear whether AIDA's present definition of "project" is broad enough to encompass an interstate gas pipeline. AS 44.88.220(5)(a) uses the term of art "local furnishing of gas" from § 103(b). To the extent that the same term in the IRC is amended to expand its meaning, it might be construed to be incorporated by reference into AIDA's definition of "project". If AIDA were to be considered as the vehicle for issuance of revenue bonds for pipeline financing, bond counsel would probably recommend statutory amendments to expressly authorize the project and to expressly repeal the Alaska Gas Pipeline Financing Authority which, although technically defunct at this time, exists as evidence of a legislative intent to utilize a separate financing vehicle, not AIDA, for any participation in financing the gasline.

E. General Stock Ownership Corporations (GSOC)

The Revenue Act of 1978 added Subchapter U to the Internal Revenue Code of 1954, 26 U.S.C. § 1391 through § 1397. This legislation provided

for the creation of a general stock ownership corporation (GSOC) and it authorizes special tax treatment for those corporations which qualify. The federal legislation requires that all GSOC's be chartered by an act of the state legislature or by a referendum and further requires that each state charter provide as follows:

1. That the charter provide for the issuance of only one class of stock;

2. That the charter provide for the issuance of shares only to eligible individuals; "eligible individuals" are further defined as those who are residents of the State as of the date specified in the State's enabling legislation and who continue to be residents of the State as of the date of the issuance of the shares;

3. That the charter provide for the issuance of at least one share of stock for each eligible individual;

4. That the charter provide that no share of stock shall be transferred by the shareholder other than by will or by intestate succession, until after five years from the date of issuance; that no share of stock be transferred to any individual other than a resident; and that no share of stock be transferred to any individual who would as a result of the transaction acquire more than ten shares of the GSOC.

In addition, the GSOC may not acquire more than 20 percent of the shares of any other existing corporation; the GSOC may not acquire property through the right of eminent domain; the GSOC's charter must mandate that it qualify as a GSOC under the Internal Revenue Code; and finally, the GSOC must be chartered and organized between December 31, 1978 and before January 1, 1984.

The GSOC is treated as a private corporation and not as a governmental unit for purposes of the Internal Revenue Code, except that a qualifying GSOC is not subject to federal corporate income taxes. Instead, GSOC's "taxable income" which is calculated in accordance with the Internal Revenue Code (with minor exceptions not relevant here) would be attributed directly to the shareholders in proportion to the number of shares held and would be taxed as individual income to those shareholders. This dividend income does not qualify for the exclusion from gross income associated with the first $100.00 of dividend income. See 26 U.S.C. § 116.

The GSOC is required to distribute at least 90 percent of its "taxable income" for any tax year. 26 U.S.C. § 1396(a). The failure of an electing GSOC to make the required 90 percent distribution would

subject it to a penalty of twenty percent of the excess amount required to be distributed over that amount actually distributed.

The federal scheme is intended to give the GSOC a significant competitive advantage since the corporation can operate free of corporate income taxes at the federal level. This advantage is incorporated by reference into the State corporate income tax by AS 43.20.021. On the other hand, the ten percent maximum on retained earnings would inhibit a corporation's expansion into major new investment areas on the basis of these earnings alone.

The GSOC was the idea of Louis Kelso, originator of employee stock ownership plans (ESOP) and Senator Mike Gravel of Alaska, who was the primary sponsor of the Subchapter U amendments to the Code. Together, these two became proponents before the 1979 and 1980 Sessions of the Alaska State Legislature of an Alaska GSOC (or AGSOC) which they further proposed would be able to buy BP-Sohio's share of TAPS on a 100 percent debt financing basis. They admitted the possible need for access to state funds for start up financing, for guarantees, or for equity contributions. Although AGSOC certainly had significant supporters in the Alaska Legislature, problems relating to the internal organization of an AGSOC and the concept of an AGSOC significantly invested in the oil and gas industry and thus, in direct conflict with various state tax, resource development and environmental policies gave rise to serious reservations about the advisability of chartering such a corporation. See Attachment 15 for an overview of legal and constitutional problems.

Nonetheless, there was sufficient public support for the idea that Senator Gravel successfully got the issue on the November 1980 ballot by a successful initiative drive. See Attachment 16. The AGSOC, however, was rejected by Alaska voters that year.

On the financing issues related to AGSOC, one problem with the vigorous lobbying effort of Senator Gravel and Louis Kelso was that they failed to convince most observors that the State would not have to be a significant participant as lendor or guarantor in the AGSOC's initial investment. Even for those who were willing to see the State play an affirmative role in financing a major project, e.g., a pipeline investment, Senator Gravel, other than allusions to seeking voter approval and pledging the state credit as a guarantee to allow debt financing, never developed a viable proposal for utilizing state credit other than by cash appropriations out of current revenues for loans or for reserve funds to guarantee private sector loans.

The impact of the establishment of a state funded loan guarantee fund on the State's credit rating was analyzed for the State Bond Committee by John Nuveen Co., Inc. in their letter of October 1, 1979. See Attachment 17.

F. Transfer or Encumbrance of Interest in North Slope Royalty Gas.

The State of Alaska presently has an uncommitted one-eighth royalty interest in an estimated 26 trillion cubic feet of North Slope gas which arises at the time the gas is produced. That future interest might be creatively incorporated into a state gasline financing proposal. AS 38.05.183 authorizes "the sale, exchange or other disposal in whole or in part of a right to receive future mineral production under a state lease." Such a disposition must be by competitive bidding unless the Commissioner of Natural Resources makes a determination that bidding is not in the best interests of the State or that no effective competition exists. Subsection (e) outlines the factors which the Commissioner must consider in making an award other than by competitive bidding. These include the cash value offered, the projected effects of the disposal on the economy and the expected benefits of refining or processing the gas instate. Although this section clearly is oriented toward the outright sale of the interest as evidenced by the continued reference to the "prospective buyer," the term "sale, exchange or other disposal" would seem to be broad enough to encompass a pledge or encumbrance of that interest in future production. For instance, that interest in whole or in part could arguably be committed by contract to guarantee cost overruns or to serve as security for some other aspect of the financing. Obviously, the value of that security--dependent as it is upon completion of the project and upon marketability of the gas once the gasline is completed--is a separate issue. AS 38.05 and AS 38.06 also provide authority for the State to waive rights to receive future production of royalty gas which would seem to include within it the right to defer payment of the royalty in value. An agreement providing for deferral of payments to the State would lower the front end costs of the gas and might help assure the marketability of the gas delivered to the Lower Forty Eight, since the declining tariff would over time lower the cost of the gas to all consumers. This deferral, assuming it was compensated by a reasonable interest rate, could arguably be consistent with the State's revenue needs since the revenues would be more critically needed in the 1990's than in the early years of proposed gas production.

Any proposed disposition would be subject to review by the Alaska Royalty Oil and Gas Development Advisory Board which is comprised of the Commissioner of Commerce and Economic Development, the Commissioner of Revenue, the Commissioner of Natural Resources (a nonvoting member) and three public members. The review procedures and the criteria which must be evaluated are outlined in AS 38.06 (Attachment 18) which ultimately result in a recommendation to the Legislature as to the advisability of the transaction. The Legislature must approve by enactment of a bill any sale, exchange or disposition of the rights (or waiver of the rights) to receive royalty oil or gas.

G. Moral Obligation

Given the magnitude of the financing assistance requested by the Project Sponsors, the complexity of the financial and policy issues involved, the fact that the Project Sponsors have not, as yet, finalized their financial plan documenting the commitment of their partners and the producers, and the fact that we are already in the middle of the second month of this session, it seems very unlikely that there is time to consider bold new legislative schemes requiring adoption this session. The Governor and Alaska State Legislature might, in establishing the capital project priorities, determine that the State commit some substantial investment to the gasline project. However, there will simply not be enough available cash out of the FY 83 budget year for an investment the size contemplated and desired by the Project Sponsors. Assuming for instance, only one hundred million were found to be allocable to this project. one option might be the passage of a concurrent resolution. This would merely advise the next legislature that investment of, for example, one billion dollars should be considered a priority for the State and that, assuming an adequate financing plan is developed (meeting whatever conditions the legislature might wish to impose), those future legislatures should appropriate the balance out of current available surpluses, if any.

The concurrent resolution, while not binding on anyone, and therefore, not technically a financing device, might serve to define the existing political consensus of the type and extent of the investment commitment the State should seriously attempt to meet. This would, in turn, help meet the criticism of the Project Sponsors that the State has never clearly expressed to them the type and extent of the financial commitment it would consider fiscally prudent and desirable. It would help moot out the "chicken and egg" situation we find ourselves in where we demand that the Project Sponsors present us with a financial plan that we can respond to and they argue that they need to know what we would consider before they can develop a financial plan.

General Caveat: To the extent that some of the conclusions suggested in this overview constitute gratuitous legal opinons not supported by references to Bond Counsel opinions or Attorney General opinions, please feel free to challenge them. We can and should seek clarifying opinions on any questions pertaining to any of the alternatives discussed which you feel are worth pursuing in your study. Please do not hesitate to give me a call if you have any questions concerning these issues.

Sincerely,

Joseph K Donohue

Joseph K. Donohue
Deputy Commmissioner, Taxation

JKD:jas

Enclosures

List of Attachments

Attachment 1	Berrier to Gardiner/Miles, dated March 1, 1979
Attachment 2	Wohlforth & Flint to Williams, dated July 9, 1979
Attachment 3	Proposed amendments to Alaska Constitution in re Appropriation Limit (on November 1982 Ballot)
Attachment 4	General Fund Investment List
Attachment 5	Permanent Fund statutes
Attachment 6	Amendments Proposed by Governor and Board of Trustees to Permanent Fund Statutes
Attachment 7	Alaska Gas Pipeline Financing Authority AS 44.82
Attachment 8	1979 Financial Impact Plan
Attachment 9	1980 Financial Impact Plan
Attachment 10	Legal Opinion of Preston, Thorgrimson dated September 21, 1979
Attachment 11	Governor's bill and transmittal letter: HB 197
Attachment 12	Financial Opinion Letter from John Nuveen & Co., Inc., to Williams, dated September 24, 1979
Attachment 13	Financial Opinion Letter of Dillon, Read & Co. to Williams, dated September 19, 1979
Attachment 14	Alaska Industrial Development Authority AS 44.88
Attachment 15	Legal Opinion Memorandum of Donohue to Ulmer, dated March 20, 1979
Attachment 16	GSOC initiative and bill
Attachment 17	Financial Opinion Letter of John Nuveen & Co., Inc. to State Bond Committee, dated October 1, 1979
Attachment 18	Section 38.05.183 (Sale of Royalty) and Chapter 06 (Alaska Royalty Oil and Gas Development Advisory Board)

MEMORANDUM State of Alaska

TO: John W. Katz
Commissioner
Department of Natural Resources

DATE: March 26, 1982

FILE NO:

TELEPHONE NO:

FROM: Charles E. Behlke
State Pipeline Coordinator
Office of the Pipeline Coordinator

SUBJECT: Assessment of Potentials for Construction Cost Overruns for NWA Project

As you requested, the Office of the Pipeline Coordinator has assessed potential for construction cost overruns for the Northwest Alaska gas pipeline project. However, construction management is the key determinant of whether the project comes in under or over projected costs. A worst case estimate is that the project will suffer a 20% cost overrun if logistics and construction management were badly handled, a possibility we estimate at 33% probability. On the other hand, outstanding construction management could result in the project's costs being as much as 10% below the cost estimate. In addition, there is approximately a 23% probability of cost overruns due to project delay caused by the failure of a sea lift to make the sea ice "window" during at least one year of the construction period. Environmental and technical concerns present little reason for delay of completion and cost overruns for the project. The following presents a more detailed discussion of the potential construction cost overruns.

Environmental

The environmental stipulations attached to the Federal Right-of-Way Grant, and which will be little different for the State Right-of-Way Lease, should prevent any major environmental disaster which could contribute to cost overruns. This is probably the area of least uncertainty with regard to costs because the Trans-Alaska Pipeline System (TAPS) project provided a significant background of field experience, both during and after construction, which State and federal officials utilized generously in developing the Right-of-Way Grant/Lease Environmental Stipulations. The environmental constraints have been properly allowed for in the Certification Cost Estimates (CCE) by Northwest Alaskan.

Geotechnical

A buried, chilled gas pipeline has not previously been constructed and operated under geotechnical conditions similar to those to be encountered by Northwest Alaska Pipeline Company's (NWA) proposed pipeline. NWA, principally through the vehicle of the Design and Engineering Board (contributing members consist of the pipeline partnership, Sohio, Exxon and ARCO), has designed and implemented at considerable expense, an extensive, continuing series of comprehensive field test programs, at several locations, in Alaska, in an attempt to better understand problems, principally frost heave, associated with the proposed buried, chilled pipeline. Because the oversight of pipeline integrity for this project is everywhere a federal responsibility, the State has not participated extensively in the government reviews, etc., of the design and implementation of these pipe related field programs. However, engineers from the State have participated in various other civil and environmental design reviews with NWA engineers and with associated Sohio, Exxon, and ARCO arctic engineering specialists. That experience leads us to be confident that the totality of engineering talents available and being utilized for the design of the pipeline is competent to address the problem, the probability is high that the engineering talents which are being brought to bear on this project will develop an acceptable design. It, presently, appears that the sponsors' engineering staff is progressing at a proper pace toward adequate, timely solutions to each of the technical problems associated with the long-term integrity of the proposed pipeline.

Long-term, technical solutions may require greater operations and maintenance costs than presently anticipated, but the initial construction costs should not be significantly higher than those presently anticipated.

Construction Management

Construction mangagement is the area which holds the most uncertainty. Construction management and logistics of the Trans-Alaska Pipeline System (TAPS) project were performed by the TAPS, so the company had the immediate ability to

coordinate these aspects of the entire project. (Though there may be some disagreement regarding how well TAPS performed this coordination, it did take timely, effective action at critical times.) Gasline and conditioning plant construction will be performed by seven major, independent contractors. These contractors will be working under fixed unit cost contracts and each will be ordering equipment and supplies, shipping these items to the job sites, and constructing their respective segments of the pipeline independently of, but simultaneously with the other contractors. Consequently, the potential exists for major logistic problems which would create shortages of key manpower, equipment, materials, and supplies for the independent contractors, thus hindering their abilities to produce the end products on time and within budget.

Fortunately, in the preparation of its CCE, NWA utilized a panel of experienced contractors to advise it on costs associated with pipeline construction utilizing the proposed NWA independent contractor management plan. Presumably, the contractors and NWA made certain that the CCE was sufficient to make the plan work. Though we are not informed of contractor work plans, the logistic framework, or the oversight and coordinating activities of the project management contractor (FLUOR), our lack of knowledge of these certainly does not assure cost overruns. Indeed, outstanding construction management could bring the project in approximately perhaps 10% under the CCE. If overall construction management, on the other hand, is not well performed, the project may, as a worst case, go as much as 20% over the CCE. We estimate that the probability of such a cost overrun is approximately 35%.

Conditioning Plant

The timing of construction of the Prudhoe Bay gas conditioning plan very significantly influences the timely completion of the project. Fortunately, a single contractor will be responsible for construction of the plant, and that contractor's logistics will be largely separate from those of the other pipeline contractors, but it will not be separate from other, significant Prudhoe Bay development.

The single, most apparent, uncertainty of timely completion of the gas conditioning plant is the uncertainty of the Arctic Ocean sea ice "window" which, when open, allows once-a-year sea transportation to Prudhoe Bay in late summer. The project sponsors do not appear to have built into their financial plans the possibility of the sea ice "window's" not opening for any one of the three annual sea lifts which are required for completion of the project. Since the first sea lift to Prudhoe Bay in 1969, the "window" has refused to open properly once. From the record of the past 13 summers, this office must conclude that there is a 1/13 possibility of having a sea ice "window" failure on any given year and approximately a 3/13 probability of sea ice problems in at least one year of a three consecutive year time span. (Not all observers would agree with this probability of non-cooperation by the sea ice. However, that is this office's best estimate). As a worst case, if any sea ice year of the three required for construction is missed, it would be impossible to make up for the loss without adding an additional construction year. Thus, as a result of possible sea ice problems, the completion of the project could be delayed during construction by one year. The probability of such an event, we feel, is 3/13, or about 23%.

Alyeska and Other Third Parties

Stipulations have been attached to the Federal Right-of-Way Grant and will be attached to the State Right-of-Way Lease which afford the Alyeska Pipeline Service Company crude oil pipeline a high degree of protection from damages due to NWA activities. The Yukon River Bridge would be the single most critical problem spot. This is recognized and the State, NWA, and Alyeska are working to minimize the risk to the bridge and pipeline on the bridge (the decision to construct the pipeline on the bridge is still to be made, but NWA wishes it to be located on the bridge).

The NWA pipeline will impact the State highways system, especially wherever the pipeline parallels highways. The State and NWA are negotiating on measures to minimize highway damage, but, certainly damages will occur. (Costs to repair damages are being sought by the State from NWA, but those negotiations are yet in the early stages).

Summary

Environmental and technical concerns present minimal expectations for delay of completion and cost overruns of the project.

The significant problems of managing seven independent major contractors to obtain cost effective, simultaneous completion of their respective segments of the project is cause for concern. The sponsors may not have the TAPS freedom to move resources into lagging segments of the project. Thus the slowest of the contractors will determine the completion data of the project.

Whatever additional costs could be expected to arise from efficient use of actual work resources has largely been factored into the certification cost estimates by the sponsors.

Because of the present uncertainties of how the logistics and construction will actually be carried out, a worst case cost overrun of 20% could occur if the logistics and construction management were to be badly handled (probability of 33%). Certainly, we do not have information which leads us to believe that such a cost overrun is inevitable, we only see it as a possibility because of present construction management uncertainties. On the other hand, outstanding management could result in the projects costs coming as much as 10% below the CCE. Certainly, the Incentive Rate of Return mechanism is strong incentive for an on time and within budget project.

The probability of cost overruns due to project delay as a result of a missing sea lift, we see as being 23%. Such a delay would result in the companies having to pay at least finance charges on the approximately $20 billion of already constructed segments of the system for an additional year.

NORTHWEST ALASKAN PIPELINE COMPANY

Alaskan Newsline

Vol. 5, No. 1 January 22, 1982

HIGHLIGHTS

WAIVER PACKAGE BECOMES LAW. . . FERC ORDERS GAS CONDITIONING PLANT AS PART OF ANGTS. . . EASTERN LEG CONTINUES ON SCHEDULE. . . ALASKA STUDIES GASLINE FINANCING. . . PROGRAM DEVELOPED FOR EMPLOYMENT, TRAINING AND COUNSELING OF ALASKAN NATIVES. . . COMPRESSOR BIDS REQUESTED FOR PLANT, PIPELINE. . . 1981 YEAR IN REVIEW.

WAIVER PACKAGE BECOMES LAW: On December 15 President Reagan signed into law a waiver package designed to remove government obstacles hindering development of a private sector financing plan for the Alaska Natural Gas Transportation System (ANGTS).

The action followed approval of the package by both the U.S. Senate and the House of Representatives. The Senate voted 75 to 19 on November 19 and the House 230 to 188 on December 10 in favor of the waivers. President Reagan originally submitted the waiver package, along with his endorsement of it, to Congress on October 15.

The ANGTS proposes to tap the vast reserves of natural gas beneath the Prudhoe Bay region on Alaska's North Slope. In excess of 26 trillion cubic feet, these reserves represent the largest accumulations of natural gas ever discovered in the United States. The ANGTS pipeline will bring the gas 4,800 miles across Alaska and Canada to the lower 48 states.

Approval of the waiver package strengthens the project's financial base by allowing the major North Slope producers--Exxon, ARCO and Sohio--to participate in equity financing with the project's gas industry sponsors. It also authorizes the Federal Energy Regulatory Commission (FERC) to approve at its discretion a tariff that will provide lenders with sufficient assurances of repayment of funds needed for private financing of the project.

In addition, the waiver package allows for expedited treatment of remaining federal regulatory approvals and permits the inclusion of a North Slope Alaska gas conditioning plant as an integral part of the ANGTS.

With this action gas transmission company partners, the North Slope gas producers and major banks can work together to forge a definitive financing plan. Development of such a plan will require a cooperative and concerted effort of

(more)

the oil and gas industry participants as well as the strong support of both the domestic and international financial communities.

The U.S. has much to gain from the ANGTS. The project will provide American gas consumers with access to 26 trillion cubic feet of proven and recoverable gas reserves at Prudhoe Bay, representing 13 percent of America's known supplies, and to a potential of between 100 and 200 trillion cubic feet of additional gas reserves believed to be along Alaska's north coast. These supplies will reduce the risk of future energy shortages in America and strengthen national security by limiting U.S. vulnerability to foreign oil embargo.

The ANGTS not only will provide a dependable long-term energy alternative to OPEC oil, but also stimulate exploration and development of vast additional reserves in Alaska and create thousands of jobs for U.S. workers. Construction of the Alaskan pipeline segment and conditioning plant will require a peak work force of 16,000 workers.

The Alaska Natural Gas Transportation System will have an initial capacity of 2 billion cubic feet of gas per day, enough energy to displace approximately 400,000 barrels of imported oil each day for the next 25 to 30 years.

The 745-mile Alaska segment of the project will be built and operated by a consortium of ten U.S. and Canadian natural gas companies called the Alaskan Northwest Natural Gas Transportation Company. Northwest Alaskan Pipeline Company, a wholly-owned subsidiary of Northwest Energy Company of Salt Lake City, Utah, is operating partner for the consortium.

Other members are subsidiaries of: Pacific Gas & Electric Company, San Francisco, California; Pacific Lighting Corporation, Los Angeles, California; InterNorth, Inc., Omaha, Nebraska; Panhandle Eastern Pipe Line Company, United Gas Pipe Line Company and Texas Eastern Corporation, all of Houston, Texas; American Natural Resources Company, Detroit, Michigan; Columbia Gas System, Inc., Wilmington, Delaware; and TransCanada PipeLines, Ltd., Toronto, Ontario.

In addition, the major Alaskan North Slope gas producers, Exxon Corporation, Atlantic Richfield Company and the Standard Oil Company (Ohio), as previously mentioned, have agreed to participate in financing the Alaska segment.

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FERC ORDERS GAS CONDITIONING PLANT AS PART OF ANGTS: As a first agency action following approval of the waiver package the FERC on January 4, 1982 amended its conditional certificate designating the sponsors, nature and route of the Alaska segment of the ANGTS to include a required gas conditioning plant as part of the system. In two other separate but related orders, the Commission vacated a proposed regulation and policy which sought to limit the types of production-related costs gas producers could recover for conditioning the gas. According to the Commission both orders were rendered moot by the waiver package legislation.

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EASTERN LEG CONTINUES ON SCHEDULE: Construction of the Eastern Leg of the ANGTS is on schedule for its fall 1982 completion date. Northern Border Pipeline

Company, responsible for the U.S. section of the Eastern Leg, is approximately 77 percent complete on the 823-mile U.S. segment from Port of Morgan, Montana on the U.S./Canadian border to Ventura, Iowa. Foothills Pipe Line (Yukon) Ltd., responsible for the Canadian section of the Eastern Leg, is 67 percent complete on the 395-mile Canadian segment from James River, Alberta to Port of Morgan. Both companies have stopped mainline construction for the winter and will resume construction in the spring. Up to 800 million cubic feet of Canadian gas per day will flow through these segments in the fall of 1982, serving consumers in midwestern, eastern and southern portions of the United States. Both the Eastern and Western Legs of the ANGTS will transport surplus Canadian gas in advance of Alaskan gas.

The initial phase of the Western Leg is complete and Canadian gas began flowing through this system on October 1, 1981 to serve customers in Southern California.

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ALASKA STUDIES GASLINE FINANCING: Members of a special committee established by Alaska Governor Jay Hammond met with financial officers of Northwest Alaskan Pipeline Company in December to explore possible state participation in financing the Alaskan facilities of the ANGTS. The committee, headed by Natural Resources Commissioner John Katz, also hired the New York investment firm of Kidder, Peabody & Co. in an advisory capacity. An initial report will be made to the Governor by March 1, 1982.

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PROGRAM DEVELOPED FOR EMPLOYMENT, TRAINING AND COUNSELING OF ALASKAN NATIVES: Northwest Alaskan Pipeline Company has created a program for the employment, training and counseling of Alaskan natives during construction of the Alaska segment of the ANGTS. The plan was developed by Northwest in consultation with members of an Ad Hoc Training Advisory Committee established in May 1981 to provide the company with views from interested organizations and individuals, including Alaskan natives.

The program currently is being reviewed by members of the Advisory Committee. It was also submitted to the FERC in November as part of a supplemental filing on Northwest's Certification Cost Estimate. Ultimately the job training plan will be submitted to the Office of the Federal Inspector (OFI) and to the Secretary of the Interior in compliance with the requirements of the federal right-of-way grant issued in December 1980.

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COMPRESSOR BIDS REQUESTED FOR PLANT, PIPELINE: Northwest Alaskan Pipeline Company issued requests December 21, 1981 to vendors for bids on turbine-compressors and main power generators for the North Slope gas conditioning facility. On January 18, 1982 the company issued requests for bids on turbine-compressors for the Alaska segment.

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1981 YEAR IN REVIEW: A great deal of progress was made during 1981 to move the Alaska Natural Gas Transportation System (ANGTS) forward. Following is a review of significant developments.

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January 16, Affirmative Action Plan Approved for Eastern Leg: The Office of the Federal Inspector (OFI) approved the affirmative action and minority business contracting plan for the Eastern Leg of the U.S. delivery system. The plan, which applies to Northern Border Pipeline Company, its contractors and subcontractors, sets employment goals for each of four minority groups and for females in each employment classification.

February 9, Construction Begins on U.S. Western Leg: Ceremonies were held in Spokane, Washington commemorating startup of construction on the U.S. Western Leg of the ANGTS. The initial phase of the Western Leg involved construction by Pacific Gas Transmission Company of 160 miles of 42-inch diameter pipeline paralleling its existing system between Kingsgate, British Columbia, on the U.S./Canadian border, and Stanfield, Oregon. By the fall of 1982, approximately 1,500 miles, or more than 30 percent, of the total ANGTS will be completed.

February 23, Compressor Station Permits Received: The Environmental Protection Agency (EPA) granted Federal air quality permits for construction and operation of the seven compressor stations to be constructed in Alaska for moving Prudhoe Bay natural gas to the lower 48 states. The permits represent more than two years of preparatory work by pipeline sponsors.

February 26, Western Leg Affirmative Action Plan Approved: The OFI approved Pacific Gas Transmission Company's affirmative action plan for the U.S. Western Leg.

March 1, Alaska Office Expands: Northwest Alaskan Pipeline Company's Alaska office moved to larger headquarters in Fairbanks. Fluor Alaska, Inc. and the joint venture of Michael Baker/Gulf Interstate, project design contractors, also relocated to the new headquarters on Douglas Avenue.

March 11, President Reagan and Department of Energy Reaffirm Support for ANGTS: On a visit to Ottawa, President Reagan told members of the Canadian Parliament that he strongly favors prompt completion of the ANGTS. Department of Energy Secretary James Edwards also assured the Canadian Northern Pipeline Agency that the U.S. government is firmly committed to completion of the system in conformity with agreements between the two countries.

March 11, Eastern Leg Receives Right-of-Way: The Department of Interior issued a right-of-way grant across Federal lands for the U.S. Eastern Leg.

March 17, Conditioning Plant Lease Filed with Alaska: Northwest Alaskan Pipeline Company applied to the State of Alaska for a lease of state lands at Prudhoe Bay, Alaska for the purpose of constructing a gas conditioning plant.

April 15, Pipeline ROW Application Updated: Northwest Alaskan submitted a major update to its earlier application to the State of Alaska for a pipeline right-of-way across state-owned lands in Alaska.

May 5, Construction Begins on U.S. Eastern Leg: Groundbreaking ceremonies were held near Aberdeen, South Dakota for the U.S. Eastern Leg of the ANGTS. The U.S. Eastern Leg will extend 823 miles from Port of Morgan, Montana to Ventura, Iowa. Completion is scheduled for the fall of 1982.

May 9, Six New Test Sites Under Operation: Six chill pipe test sites were constructed along the route of the pipeline in Alaska for testing various soils

for the project's design. The first site became operational on March 5 and all six were operational by May 9.

June 3, Sponsors & Producers Reach Financing Agreement: Northwest Alaskan and the three major North Slope gas producers, Exxon, ARCO and Sohio, reached a joint financing agreement.

June 17, ANGTS Waiver Package Sent to White House: Northwest Alaskan on behalf of project sponsors asked President Reagan to consider a waiver of law package designed to remove government obstacles hindering private financing of the remaining portions of the ANGTS.

August 13, Alaskan Segment Affirmative Action Plan Approved: The OFI approved the affirmative action and minority business contracting plan for the Alaska segment of the ANGTS.

September 29, First Quarterly Impact Report Released: Northwest Alaskan released the first in a series of quarterly impact reports to assist Alaskans in planning for construction of the Alaskan pipeline system. The 40-page report, "Gasline Planning Update", includes updated information on current and projected gasline manpower, scheduling, Alaska field program activities, logistics planning, gas conditioning facilities, Fairbanks housing trends and results of a survey of six small communities along the gasline route.

October 1, First Canadian Gas Flows Through Western System: Ceremonies were held in Los Angeles celebrating the first flow of natural gas from Alberta, Canada to Southern California through the Western Delivery System. The system includes nearly 300 miles of new pipeline constructed in the U.S. and Canada as the initial phase of the Western Leg. Northwest Pipeline Corporation also added 351 miles of new pipeline to its system in Oregon and Idaho to help deliver the Alberta gas to Southern California.

October 15, President Reagan Sends Waiver Package to Congress: President Reagan submitted to Congress a proposed waiver of existing law designed to help achieve private financing for the Alaska segment of the ANGTS. The waiver is required to: permit equity participation in the project by the three major Prudhoe Bay gas producers -- Exxon, ARCO, and Sohio; include the necessary North Slope gas conditioning plant as part of the ANGTS; allow the Federal Energy Regulatory Commission (FERC) to approve at its discretion a tariff that would provide lenders with sufficient assurances of repayment of funds needed for private financing; and to provide regulatory consistency and expedite issuance of remaining federal regulatory approvals.

November 10, Waivers Clear Senate Committee: By a vote of 14 to 1 the Senate Committee on Energy and Natural Resources approved the ANGTS waiver package.

November 12, House Interior Committee Approves Waivers: The Interior and Insular Affairs Committee of the House of Representatives passed the ANGTS waiver proposal by a vote of 32 to 9.

November 17, House Subcommittee Votes in Favor of Waivers: The Subcommittee on Fossil and Synthetic Fuels of the House Committee on Energy and Commerce approved the ANGTS waiver package by a vote of 12 to 9.

November 19, ANGTS Waivers Clear House Energy Committee: By a vote of 27 to 14 the House Committee on Energy and Commerce approved the ANGTS waiver package.

November 19, Senate Approves Waiver Package: The U.S. Senate voted 75 to 19 in favor of the waiver package.

December 10, House Approves Waiver Package: The U.S. House of Representatives voted 230 to 188 in favor of the waiver package.

December 15, President Reagan Signs Final Waiver Package: President Reagan signed into law the waiver package allowing individual pipeline sponsors, the gas producers and the banks to develop a definitive financing plan.

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NOTE REGARDING THE FOLLOWING FRAME ON MICROFILM:

COMPLETE DOCUMENT IS AVAILABLE IN ORIGINAL FILES IN ALASKA STATE ARCHIVES. TITLE PAGE ONLY HAS BEEN FILMED.

REPORT TO
THE GOVERNOR'S TASK FORCE
ON
STATE OF ALASKA PARTICIPATION
IN FINANCING THE ALASKAN SEGMENT
OF
THE ALASKA NATURAL GAS TRANSPORTATION SYSTEM

Kidder, Peabody & Co. Incorporated

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March 22, 1982