

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECTS 8672

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1 the dollar price, let's say, shown on the producers' con-
2 tracts may not be all they're really getting because
3 they have tie-ins with some of the people to whom they
4 will be selling and there may be, for example, a swap of
5 some oil or gas, and other kinds of things that will not
6 be directly a part of that contract and will not show
7 a dollar value, but which obviously will have value to
8 the producers. If that's true, do the contracts that
9 we presently have, these contracts before us, protect
10 our interests?

11 DR. SWANSON: I remember the testimony, I've forgotten who
12 testified, as you just described. The concern you have,
13 I believe, is under deregulation where there is somewhat
14 market pricing that might apply. The reason I say that
15 is, if regulation occurs probably the price will be held
16 below market price, the price for Alaskan gas will be
17 held below market price, and there would be no incentive
18 for a producer on the North Slope to keep their prices
19 below the regulated price, the allowable ceiling. So I
20 think you're talking about a case which might exist under
21 deregulation.

22 Now, on the North Slope or in the Prudhoe Bay
23 area there are at least three major working interest
24 owners, BP-SOHIO, Atlantic Richfield, and Exxon, plus
25 some of the working interest owners are consortiums of

1 Amarata, Hess, and five, or six or seven different oil
2 companies. Now, the contracts, under deregulation, in
3 Section 6.3 and 6.4 clearly state that the redetermination
4 shall be the highest price paid any working interest
5 owner on the North Slope. It may well be, though I think
6 the possibility remote, but it may well be that one
7 working interest holder may have a somewhat lower price,
8 stated price, in the contract under deregulation than
9 would be justified by an arm's length not around the back
10 deal.

11 However, in order that the highest price all be
12 held down below market justified pricing would require
13 at least six or seven oil companies to conspire to hold
14 that price down. There are people who argue that the
15 oil companies conspire frequently. It is my opinion that
16 they compete vigorously. I doubt very much -- I think
17 it highly improbable that six or seven oil companies
18 of quite different size, who operate in very different
19 areas of the world and very different areas of the United
20 States, with very different crude balances and very
21 different supplies of natural gas would find such a
22 commonality of interest that they could even structure
23 such a deal.

24 REP. PARR: I take it then, Dr. Swanson, that your answer
25 to my question is, yes, the contracts do protect us.

1 DR. SWANSON: es, they do.
2 REP. PARR: Thank you.
3 SENATOR RADER: Any further questions? Senator Huber?
4 SENATOR HUBER: Thank you, Mr. Chairman. Mr. Swanson, are
5 there any other reasons which you might be able to think
6 of that the producers appear to have for not committing
7 their gas at this time that might be worth the State's
8 consideration before we commit ourselves, other than you
9 have discussed already?
10 DR. SWANSON: I can't think of any at the moment. If I do
11 think of one while I'm on the stand, would it be
12 appropriate for me to so indicate and explain it to you?
13 SENATOR HUBER: Yes, I would appreciate that if you would.
14 SENATOR RADER: I had a couple questions, Doctor. You've
15 attended the hearings since they commenced last Monday
16 at 2:00 o'clock, is that not correct?
17 DR. SWANSON: Yes, I have been here all the time.
18 SENATOR RADER: You've been in constant attendance at all
19 times?
20 DR. SWANSON: Yes, I have.
21 SENATOR RADER: Doctor, considering all of the testimony
22 which you have heard and considering the difference between
23 possibilities and probabilities, how would you characterize
24 this contract as to whether or not it protects the State
25 in an overall manner or does not the possibilities of it --

1 not as against the probabilities of it not -- in other
2 words, I would like to have you use your expertise to
3 help us weigh the value of very conflicting testimony
4 and the statement of possibilities as against probabilities.

5 DR. SWANSON: In my opening remarks I attempted to deal with
6 some of the issues that were raised in the testimony which
7 precedes mine when I talked about the issue of, can a higher
8 price be obtained than would be obtained under these
9 contracts in the issue of pricing, royalty pricing.

10 It's my judgment that these are good contracts.
11 I think that they protect the interests of the State in
12 the use of liquids, in its ability to reserve gas and
13 obtaining a favorable price. Very well, given the
14 set of probable circumstances which may emerge in the
15 future, and there is a great deal of uncertainty about
16 the price of natural gas, to be sure, there is -- I think
17 Representative Gruening has identified one possible
18 event, that is the setting of vintage dates on contract
19 date, which hasn't happened recently, which is a risk:

20 SENATOR RADER: Would you weigh that risk for us as possible,
21 probable, improbable, or whatever terms you might choose
22 to use? Again, it's very difficult for me to know
23 whether that risk is something that is of such a nature
24 that we should reject the contracts or how to weight it.
25 In other words, place a value on this, recognizing again

1 that's really what you're hired for, is for your value
2 judgment on matters in which we are not experts, on which
3 there are conflicting possibilities and probabilities.
4 DR. SWANSON: I recognize that, and I think that's a valid
5 question. You're asking me to evaluate probability of
6 any legislative or regulatory event. Now, that is the
7 using of contract date as the appropriate time for
8 vintaging. If we look to recent history being in the
9 last ten years, contract date was not used in such a
10 way that the value of this contract to the State --
11 this contract compared to that with the State -- to be
12 sure, the course of regulation and legislation is
13 something which can be, particularly in the area of
14 natural gas, can be highly unpredictable, as it has
15 proven to be in the past two or three years. I would
16 say that the chances that contract date will be used
17 as a vintage date to the detriment of the State, if
18 this contract were to be approved now, is probably less
19 than fifty percent, and it may be quite a bit less than
20 that. I'm not sure I've answered your question.

21 SENATOR RADER: Well, does it approach fifty percent?

22 In other words, we signed this contract, we have a
23 fifty/fifty chance of having signed a disadvantageous
24 pricing contract because of vintaging.

25 DR. SWANSON: If I may just try to think through to myself

1 what the advantages to advocates of various positions
2 and the position of the Congress might be of a contract
3 date vintaging. Let me just pause a minute and think
4 about it, and I will respond.

5 Senator Rader, I frankly don't understand the
6 history or regulation well enough to know why a contract
7 date was used in the Permian base in case, rate case for
8 vintaging.

9 SENATOR RADER: Let me ask you this: I don't want to ask you
10 to go on record here on something on which you are not
11 prepared.

12 DR. SWANSON: I would like to continue, if I may, sir.

13 SENATOR RADER: All right.

14 DR. SWANSON: The reason for using vintages and defining
15 something called new gas is to raise the price of gas
16 to producers so that they are encouraged and have the
17 financial resources to explore and develop natural gas.

18 The reason there is vintaging is to keep the
19 price of flowing gas down, the theory being that one
20 does not increase the incentive to a producer to find
21 new gas by raising the price of old gas. That strikes
22 one as a reasonable theory.

23 Both Mr. Moody and Mr. Byrd have done a good
24 deal of natural gas contracting, but my understanding
25 of natural gas contracts (you might want to pose this

1 same question to them) -- my understanding of natural
2 gas contracts is that under contracts a whole reservoir,
3 where all the natural gas under a lease will be dedicated
4 to the sale, to the contract, often underneath the land
5 area there will be more than one reservoir of natural
6 gas, or often the reservoir may be sufficiently intimated
7 that after a while it makes sense to drill some additional
8 wells, or it may be that in a natural gas lease, a
9 natural gas reservoir, that after a while the well will
10 sand up, the casing will collapse, or the well will be
11 damaged, and thus a new well will have to be drilled; or
12 if there is a deeper reservoir a well will have to be
13 drilled or an old well re-entered in order to find the
14 gas in a deeper reservoir.

15 If the vintaging date were the date of the contract --
16 remember that the whole, all of the gas underneath the
17 lease, perhaps defined by depths, were to be dedicated
18 to the contract, then there would be no incentive for
19 the producer to repair the wells or to redrill the wells
20 or to search deeper for new reservoirs. Thus, it strikes
21 me -- the point I have is, and I guess you should ask
22 other witnesses, is that given some of the conventions
23 of natural gas contracting, that vintaging new gas by
24 date of contract may impair the discovery of additional
25 supplies of natural gas, which would be contrary to what

1 I understand to be the purpose of deregulation or the
2 purpose of allowing a higher price for new gas, and
3 thus self-defeating. If the theory I have just expounded
4 is true, then I think that a vintaging gas generally
5 within the United States by contract date would be
6 unlikely.

7 SENATOR RADER: Any further questions? Senator Sumner.

8 SENATOR SUMNER: Mr. Chairman. Have you evaluated contracts
9 between states and oil companies in the past?

10 DR. SWANSON: No, sir, I have not.

11 SENATOR SUMNER: Do you have any basis to compare or to answer
12 a question of how does this contract for the sale of the
13 royalty gas compare with the sale of royalty gas between
14 other states and oil companies?

15 DR. SWANSON: I happen to have in my possession a very bad
16 photographic copy of a sale of royalty gas from New
17 Mexico to El Paso.

18 SENATOR SUMNER: How does this sale contract here compare
19 in favor of the State?

20 DR. SWANSON: I read that contract last night, the one between the
21 Royalty Board of New Mexico and El Paso, and I think
22 that the sale of Alaskan royalty gas compares well.
23 The other contract also was a soundly conceived contract,
24 and it did not have the reservations clause that Alaska
25 has.

1 SENATOR SUMNER: When you say compares well, is this contract
2 better than, in your view?

3 DR. SWANSON: The contract you have negotiated is a better
4 contract.

5 SENATOR SUMNER: There's some confusion in my mind. If the
6 contract says that Alaska is going to get paid as high
7 as any of the producers that are selling to the oil
8 companies for the seven-eighths supply, would the vintaging
9 determine the sale price that Alaska receives, or would
10 the contract dates on their contract with the users or
11 buyers determine the sale price that Alaska gets?

12 DR. SWANSON: I think you have posed a question which would
13 require legal interpretation and, frankly, I had not
14 thought of it, in response to the earlier questions of
15 Senator Rader and Representative Gruening, because what
16 you're arguing is that through the terms of this contract
17 the vintaging date applicable to this contract alone may
18 not apply. That's a very important question and I would
19 only like to say that I'm not a lawyer, I do not have
20 extensive Power Commission experience, and you have a
21 witness who does. I just am not qualified to answer
22 the question. I do understand the issue, and it's a good
23 point.

24 SENATOR RADER: Let me go back just a moment then to the
25 question I asked you. Does that change your answer to my

1 question as to whether or not it is likely in the future,
2 in view of the past policies, that contract date will be
3 the determining factor in vintaging? As I understood
4 your testimony, you said you thought it would be highly
5 unlikely the contract date would be the determining
6 factor in vintaging.

7 DR. SWANSON: Unlikely, yes.

8 SENATOR RADER: Now, the question raised by Mr. Sumner does
9 not affect your testimony in that regard, does it?

10 DR. SWANSON: No, it does not. In fact, if anything, it
11 suggests that at least within the terms of the contract
12 one does not know how those terms will be interpreted
13 in accordance with the Federal Power Commission, at
14 least within the terms of the contract, that there is
15 even less likelihood that contract date vintaging would
16 apply to the price.

17 SENATOR SUMNER: Mr. Chairman, in response to you, that's
18 the view that I thought.

19 SENATOR RADER: Senator Colletta, do you have a question?

20 SENATOR COLLETTA: I believe Senator Huber did.

21 SENATOR RADER: Oh, Senator Huber.

22 SENATOR HUBER: I had on your subject in response to Senator
23 Rader I want to get back in. Now there's a second one
24 since you came in. Senator Rader and I apparently didn't
25 hear exactly the same way. I thought I heard you say

1 that the chance that vintaging would be disadvantageous
2 or that it would happen to the State was on the order
3 of fifty percent, not very unlikely. So which way is it?
4 DR. SWANSON: Senator Huber, what I attempted to do was, when
5 I said that the probability that vintaging would be based
6 upon contract date, I said I thought the probability was
7 less than fifty percent. I chose a number where I felt
8 extraordinarily confident, and Senator Rader felt that,
9 in his judgment, he needed a finer definition, a more
10 precise statement of probabilities, and he pressed me
11 on the point, and upon thinking about the point, in
12 thinking about the use of contract date for setting
13 vintaging dates for pricing, given the traditions of
14 contracting in natural gas, did not strike me as too
15 sensible, given the purposes of national policy in the
16 use of vintaging. So I think that the probability
17 that contract date will be the applicable vintage
18 definition that dominates price under this contract is
19 quite a bit less, it is unlikely.

20 SENATOR HUBER: Would you like to give a percentage of
21 less than? You gave less than fifty before. Would you
22 like to give us less than something now?

23 DR. SWANSON: Less than fifteen, less than ten percent.

24 SENATOR HUBER: Less than ten percent. All right, that
25 goes on ---

1 DR. SWANSON: Now, the difficulty of a number -- excuse me,
2 Senator, I'm sorry.

3 SENATOR HUBER: Go ahead.

4 DR. SWANSON: The difficulty of a number given, such as that,
5 is that it's a number which can assume greater importance,
6 or it's an easy number to grab ahold of. You asked me
7 the question straight, and I answered it as straight as
8 I could. Maybe it's fifteen percent, maybe it's five
9 percent, maybe it's ten percent, maybe it's two percent;
10 I don't know, but I think when I state ten percent (maybe
11 it's less) I think that's a fair characterization of
12 unlikely. But remember that that ten percent would be
13 further reduced by the point that Senator Sumner has brought
14 up, which is that there are contract terms in the contract
15 you are examining now which might make the vintaging
16 which would allow working interest holders a higher
17 price than applicable, but that's something presumably
18 which will be worked out in the courts, and also it's
19 something that requires legal judgment, which I would
20 suggest you ask of Mr. Moody.

21 SENATOR HUBER: Mr. Chairman, that brings me to the second
22 half of my question. Mr. Swanson, your definition that
23 vintaging, I believe, was quite narrow here. In regard
24 to that, have you taken into consideration the precedent
25 that was set by the Federal Government action in disallowing

1 North Slope oil new status? Do you think that they might
2 use vintaging or some other mechanism there to do the
3 same thing with the gas that they have done with the
4 oil that might affect the status of these contracts?

5 DR. SWANSON: There are two questions, I think, which we
6 must address, and one question is, will these contracts
7 approved now put the State in a worse position than if
8 they were not approved, which is a very appropriate
9 question, to be sure. My judgment is that these contracts
10 are very good contracts and they do protect interests
11 of the State, and that if they are approved now the
12 chances that the State will suffer value are not great.

13 The second question arises, and I think it
14 comes out of your point about the Federal Government,
15 and that is, what are the risks to the State of Alaska
16 of receiving very favorable value for its royalty gas
17 and oil. Those risks are great, and I think they are
18 legislative and regulatory risks, but by and large they lie
19 outside of the contract.

20 SENATOR HUBER: Could I just draw you out a little more?

21 You said there wasn't disadvantages to the contract.
22 Could you conversely say, is there definitely advantages
23 to the contract?

24 DR. SWANSON: The theory of examining the contract at this
25 time, and many witnesses have testified to this, that by

1 approving these contracts at this time the likelihood
2 of the El Paso project being approved will be enhanced.

3 That's the theory. I, frankly, am not competent to judge.

4 SENATOR HUBER: And you don't want to make a judgment of
5 how much enhance them being chosen over Arctic?

6 DR. SWANSON: No, sir, I'm not competent, and if I were to
7 make a judgment I would be doing you a disservice.

8 SENATORY HUBER: Thank you, Mr. Swanson.

9 SENATOR RADER: Representative Gruening had a follow-up question.

10 REP. GRUENING: Are there any advantages to the State in
11 terms of pricing in these contracts? Let's say if we
12 do sell the gas at a later point under these contracts,
13 have we gained anything in terms of pricing, setting
14 aside the question of political gain that the contract
15 is based on?

16 DR. SWANSON: It's very hard to be actually sure about what
17 the course of events will be in the future. The contracts
18 do state -- let me step back a second. The question is
19 an important question and I must answer it.

20 Royalty gas comprises one-eighth of the gas in
21 the Prudhoe Bay field. The contracts are very clear, that
22 both under regulation and under deregulation that the
23 price received by the State will be the highest price.
24 The contracts are unambiguous. I do not believe that
25 one-eighth interest is sufficiently large to swing the

1 value of the gas such that the prices received by the
2 working interest owners will be less than if you waited.

3 For example, and let me expand on the point
4 because I'm not sure I'm being very clear. If the amount
5 of gas which you are selling now were enormous, more than
6 enough to satisfy the demands in the Lower 48 States,
7 then possibly by delaying, by not committing gas now
8 and by having these highest prices for other people to
9 obtain, you could depress future prices. But that's
10 not the situation to be faced. The royalty gas interest
11 is only one-eighth, and all of Prudhoe Bay gas, while
12 very large, is not sufficient to solve the lack of
13 natural gas supply in the Lower 48 States; so that your
14 committee now does not so change the balance of supply
15 and demand that future prices will be reduced by
16 your commitment now. Have I answered your question?

17 SEN. GRUENING: If I interpret it correctly, you were saying
18 that the contract protects us in most regards in your
19 view, but in terms of advantages outside the political
20 aspect of it, you don't see any -- it may be a good
21 contract but you don't see any advantages to entering
22 into a contract now as opposed to, say, trying to acquire
23 these same terms at a future date, and that may be
24 dependent upon whether, in your expert opinion, we could
25 get these terms at a future date.

1 DR. SWANSON: You would require me to read the minds of the
2 purchasing companies to determine if you could get the
3 same terms that you have in these contracts at a future
4 date. I have difficulty doing that. I would like to
5 point to one section of the contract where you do have
6 some very favorable terms, I think, and that is the
7 purchasing companies have committed to pay the royalty
8 share expenses upstream of the delivery point whether
9 or not they are able to put those expenses into their
10 costs of service. That's a good term, I think. Whether
11 they'll agree to the same term in the future, I really
12 don't know.

13 SENATOR RADER: Representative Chatterton.

14 REP. CHATTERTON: Thank you, Mr. Chairman. Dr. Swanson, I
15 don't expect I'm going to ingratiate myself with you with
16 this line of questions, but nothing personal is intended.

17 DR. SWANSON: You have an obligation, sir, a very important
18 one.

19 REP. CHATTERTON: To bring everything into perspective, I have
20 before me and have not a little slower than hastily read
21 a November 30, 1976, letter addressed to Ms. Elke Kallab
22 and signed by you, regarding a proposal to make an
23 economic study of the gas sales contracts. That was
24 dated November 30, 1976. And I also have before me
25 a letter, or a document accepting your proposal that was

1 dated December 27, I believe, 1976, and unless you're
2 like some people who may think that they're willing to
3 commit course money to build a pipeline before you have
4 a contract, I doubt if you started to do much work on
5 this problem prior to the first of the year. I'm not
6 questioning you as to the fact that in context of what
7 you were asked for and what you have presented is, you've
8 fulfilled the obligation completely, and I do concur
9 with you, with slight exceptions of your findings, that
10 this contract permits Alaska to recall and use the gas.
11 It does have that, it does provide the LPG protection,
12 but you did state here that in your proposal you would
13 not involve an analysis of the sale of natural gas
14 liquids, in your economic analysis, does provide for a
15 favorable price. Now, I think it's equally important
16 to this committee to know things that you did not find
17 in arriving at this conclusion, and obviously within
18 the framework of thirty days there's a bunch of things
19 you did not find out.

20 DR. SWANSON: There's a very large number of things of concern
21 to this committee that we did not state, that's correct.

22 REP. CHATTERTON: And possibly even the economic considerations,
23 if you had studied these things, if we had paid you more
24 money and you had had more time, it's possible -- it
25 is possible, if you had studied possibly a trade in kind

1 of gas at Prudhoe Bay with like owned State gas some-
2 place else, or State owned crude with like State owned
3 crude someplace else, or looked to see if in any way
4 this would be jeopardizing the ultimate recovery of
5 hydrocarbons from the Arctic Slope, aiding and abetting
6 the jeopardy thereof, is it possible you could have
7 come up with a slightly different conclusion?

8 DR. SWANSON: Let me list for you a number of the things
9 which perhaps are of concern which we did not study.
10 I'm not a qualified reservoir engineer. Our firm are
11 not qualified reservoir engineers. We did not study the
12 question of the level of production of natural gas
13 from Prudhoe Bay from the sedilologic sands which are
14 appropriate. On the other hand, I would assume that, given
15 the terms of the contract, that the State is well pro-
16 tected, if it were determined that to maximize the
17 recovery of oil, gas production would need to be cut
18 back, because this contract does not specify any minimum
19 quantity of natural gas which must be delivered to the
20 purchasers.

21 This contract does specify very clearly that the
22 purchasers must pay for, whether or not they can pass on
23 in their cost of service, the royalty share of facilities
24 required prior to delivery. So I'm not really sure that
25 our lack of knowledge of the specific reservoir characteristics

1 apply too much to our analysis of this contract.

2 We did not study, and I have no judgment of the
3 relative merits of the three proposed gas lines, for
4 example. A good deal of testimony has been presented
5 here, and much more before the Federal Power Commission,
6 on that issue, and perhaps you may, as individuals, in
7 your judgment, in your decisions about this contract,
8 weigh the relative merits of the three gas proposals.
9 We have not examined them, and I have no opinion, no
10 professional opinion on it.

11 We did not attempt to uncover for the State of
12 Alaska other alternate buyers of royalty gas and attempt
13 to understand from them the terms that they might be
14 prepared to offer to you for the purchase of that royalty
15 gas. I presume that in a sense the Administration, under
16 Commissioner Martin, did explore with a variety of
17 purchasers the royalty gas and possible alternate terms;
18 we did not.

19 So the question you raised, Representative
20 Chatterton, was, is it conceivable, is it remotely
21 possible that our analysis would be altered had we
22 spent more time and more effort in examining these con-
23 tracts and the alternatives which are applicable to you.
24 And when I was studying physics I read in a book that
25 it's entirely possible, it is remotely possible that

1 all of the molecules of air in this room will suddenly
2 rush over into that corner and we will all explode; I
3 think that's remote.

4 In a contract such as this, one can over-study
5 it. One should study to a point where one thinks one has
6 a grasp and can offer sound judgment to a client. If
7 we were to study, and study and study we would charge
8 for that, and perhaps not give value for money received.
9 I'm confident that our analysis is sound, our conclusions
10 are sound; I can no more say that there is no possibility
11 whatsoever of something possibly changing than I can
12 that apples will fall up instead of down. Do I answer
13 your question, sir?

14 REP. CHATTERTON: Yes, thank you very much.

15 SENATOR RADER: Senator Colletta.

16 SENATOR COLLETTA: Dr. Swanson, we have had a lot of talk
17 about the possibility and probability of what could
18 happen, and just taking the one aspect, the contract
19 provisions (period), since you deal in that area what is,
20 not the possibility but the probability of duplicating
21 a contract verbatim to what is before us now if, in fact,
22 we wait and see who builds what and when? I make
23 specific reference to one section on the total take-back
24 that we're allowed.

25 DR. SWANSON: The provisions for reserving natural gas in this

1 contract are favorable to the State. The reason that
2 the purchasers signed this contract is, as I believe
3 Mr. Tomas of Tenneco stated very clearly, that they
4 frankly don't think that either (a) you're going to take
5 back that much or (b) if you do take back that much
6 they have a good deal of confidence that Alaska will
7 experience a number of additional discoveries of gas
8 and under the terms of this contract they can buy that
9 gas.

10 Now, if you waited so long that it became more
11 probable that Alaska would take back the gas or that
12 additional discoveries would not be found and other
13 discoveries were to be committed, then perhaps you
14 couldn't get exactly the same terms with the reservation
15 clause as in this contract. I think I'm grasping at
16 something that is relatively small, and I think you may
17 well be able to get reservation clauses in the future.
18 As good as these? I don't really know.

19 The pricing provisions? I think in the future --
20 if you were to wait I think you probably will have
21 pricing provisions which are as favorable as these.
22 Whether the purchasers would pay for, at their own risk,
23 the royalty share of the costs of gathering or whatever,
24 I just simply do not know. I think likely they might;
25 I don't know.

1 SENATOR RADER: Any further questions? Any questions on
2 this side? We'll go a second round here. Senator Huber.

3 SENATOR HUBER: Thank you, Mr. Chairman. I'm sure that
4 this question was asked of other people but it was not
5 asked of Dr. Swanson, and I would like to know his answer.

6 I refer generally to the provisions in the contracts
7 that head end money, premium money, whatever you want to
8 call it, will not be allowed or will not be paid to the
9 State, but that the highest unit field prices, in the
10 language that we're both familiar with is there to state
11 that, is used. Assume now that deregulation occurs,
12 which apparently some form of deregulation is going to
13 occur, and the working interests should negotiate large
14 lump sum or front end payments with smaller amounts per
15 mcf, wouldn't our contracts then have a good chance of
16 denying the State the same opportunity for these much
17 higher prices that might be paid, or likely would be
18 paid, would be unlikely to be paid?

19 DR. SWANSON: Senator Huber, with your indulgence may I
20 characterize what I think is concerning you and then see
21 if I have characterized it correctly and then proceed
22 from there?

23 SENATOR HUBER: Please do that.

24 DR. SWANSON: Would that be an appropriate way to proceed?
25 I believe what you're suggesting is that the provisions

1 of this contract clearly state it shall be the highest
2 price specified in some other contract, and that price
3 will be in so many cents per mcf to the working interest
4 owner. You were concerned, I believe, that potentially
5 the value given in a contract or an interest owner may
6 exceed the price stated in the contract, value being
7 given to the working interest owner by an advance payment
8 on an interest free loan.

9 SENATOR HUBER: Even if it's a separate document for advance
10 payment.

11 DR. SWANSON: Or whatever, yes. I believe that is your
12 concern.

13 SENATOR HUBER: That is my concern.

14 DR. SWANSON: We have the same concern in our analysis of
15 this contract. Specifically we were aware of advance
16 payments having been made for working interest holders
17 of Alaskan gas. We then reviewed, as best we could, the
18 outstanding advance payments, the ones that had not been
19 terminated, advance payment premiums, so we uncovered,
20 particularly the Columbia Gas advance payment agreement
21 with, I guess it's BP and SOHIO. I'm not sure. And we
22 asked exactly that question in our analysis. We addressed
23 exactly that question in our analysis, would the price
24 as quoted in the contract be lower because of a previous
25 advance payment to a producer and, thus, not give full

1 value to the State.

2 Our research, looking at the contracts between
3 SOHIO and Columbia led us to believe that the advance
4 payments given to the producers would not reduce the
5 price as quoted in the contract. That was the conclusion
6 of our research.

7 Let me continue. One question that can be raised
8 is, will advance payments be allowed in the future.
9 I think the Federal Power Commission has suggested that
10 they won't be. A pipeline will give an advance payment --
11 well, the Federal Power Commission says they're not
12 doing it now -- a pipeline will give an advance payment
13 only if it can somehow recover the cost of using that
14 money or that money in its rate base. If they can't put
15 it in their rate base or they can't somehow recover it
16 from their consumers, they're unlikely to make advance
17 payment, because they can recover an allowable price.

18 Secondly, in the repayment -- I would like to say
19 something and I think I'm going beyond my current research
20 and competence and I'm not sure whether I should say it,
21 subject to verification of Mr. Moody or simply not say it.
22 I'll proceed by your judgment.

23 SENATOR HUBER: If it's part of my question I wish that you
24 would.

25 DR. SWANSON: I'll do that, but I do want to warn the two

1 committees that my recollection of the regulation of the
2 law is shaky. My recollection is that the amount of gas
3 that must be delivered for the repayment of an advance
4 payment will depend upon the subsequently negotiated
5 price for the gas. Thus, it is in the interest of the
6 working interest owner to negotiate the highest possible
7 price he can get in order to repay the advance payment
8 as soon as he can.

9 If that theory or recollection were true, and you
10 can check this with Mr. Moody, then the granting of an
11 advance payment probably would not reduce the stated
12 price in the gas sales contract and, thus, would not
13 provide full value under the most favored nations clauses
14 or the clause of deregulation in them, and in the highest
15 price clauses under this contract.

16 SENATOR HUBER: Thank you, Mr. Chairman. I feel it is a
17 little better given, the answer, from our experts rather
18 than the oil company in this case on that one. I lay
19 that one to rest as far as I'm concerned.

20 SENATOR RADER: Any further questions of Mr. Swanson?

21 Mr. Swanson, I think you were trying to catch an airplane,
22 were you, this afternoon?

23 DR. SWANSON: No, sir, I'm going to catch the 8:30 plane
24 out tonight, so I'm at your service.

25 SENATOR RADER: Would you stay for the remainder of the

1 proceedings in case questions do come up later?

2 DR. SWANSON: Yes, sir.

3 SENATOR RADER: Thank you very much. I have no particular
4 preference of order myself. Mr. Moody, Dr. Kilgore, do
5 you gentlemen have any idea as to a preference of
6 testimony, your order?

7 MR. MOODY: Whatever the will of the committee, Mr. Chairman.

8 SENATOR RADER: Why don't we take a ten-minute break and
9 let me discuss with both of you the nature of your
10 testimony and make a decision?

11 (Whereupon the hearing recessed at 2:40 p.m.
12 and reconvened at 2:50 p.m.)

13 SENATOR RADER: The committee will come to order. During recess
14 I discussed with Mr. Moody and the Doctor the order
15 of testimony, and it was the feeling that the Doctor's
16 testimony would be more in line and more relevant to
17 that which has gone immediately preceding and, therefore,
18 it would be logically easier for him to testify at this
19 time along the same lines as indicated previously by
20 Dr. Swanson.

21 Doctor, of course, you're an old hand here.
22 We all know that you're with the Levy Lipton Associates,
23 but for the record, for those who do not know you, and
24 who may come across this record, would you give us a
25 full statement of your firm and yourself, and then proceed

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with the statement, which I presume then we would open
to questions.

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Tussing

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1 DR. TUSSING: I just have one comment. In my opinion the
2 report of the administration's Gas Pipeline Task Force
3 is an exceptionally thorough, fair and objective review
4 of the relative merits of the three competing gas trans-
5 portation systems. In view of the political sensitivity
6 of the issue and the compulsion that agencies generally
7 have to find the most favorable arguments for the policies
8 adopted, I think that this is a really admirable document.

9 There are only a few points in the report on
10 which I would have a different emphasis and there are a
11 number of assumptions in Dr. Knudson's report that I think
12 were biased in favor of the kind of answer that supported
13 the policy. But I don't think these are crucial to the
14 main conclusions of the Task Force report, and when I
15 start my presentation I'll summarize what I think are the
16 principal conclusions and what the implications of those
17 would be.

18 SENATOR RADER: Unless the Committee objects, why don't we
19 go ahead and listen to your presentation and then open
20 questions to both of you. Would that be appropriate?

21 DR. TUSSING: Yes.

22 SENATOR RADER: Is there any objection to that procedure,
23 Committee? Fine.

24 DR. TUSSING: Okay. I didn't come with a prepared statement.
25 I have some fragments of things, two of which I would

1 like to introduce into the record. One is -- let me
2 back up for a moment and identify myself, as you re-
3 quested. I'm Arlon Tussing. I'm a professor of Eco-
4 nomics at the Institute of Social and Economic Research
5 at the University of Alaska. I have been affiliated
6 with the University for twelve years. I have also
7 served as chief economist of the U.S. Senate's National
8 Fuels and Energy Policy Study under Senator Jackson and
9 continue to serve Senator Jackson as an economic advisor
10 on energy and natural resources.

11 During the last year I have also served as an
12 advisor on oil and gas issues to the State of California,
13 the Provinces of Nova Scotia, Ontario and British
14 Columbia. I have served for a little over a year on the
15 Royalty Oil and Gas Development Advisory Board, during
16 the period of which the initial negotiations were --
17 took place on these contracts. I have given consideration
18 in a number of forums and for a number of agencies to
19 various aspects of the Alaska gasline question.

20 There are a great number of issues I would like
21 to comment on, if I have time. I realize your time is
22 limited and I'm going to try to confine myself to some
23 of the high spots and then let you proceed.

24 SENATOR RADER: You have two documents that you wanted
25 entered as exhibits?

1 DR. TUSSING: Yes.

2 SENATOR RADER: Would you identify those for us?

3 DR. TUSSING: One is an article headed "An Inkling of the
4 Long Journey", published in "Northern Perspectives",
5 which is the newsletter of the Canadian Arctic Resources
6 Committee. This was published only last month but I
7 wrote it in June. So to the extent that there is any-
8 thing dated in it, you can understand that.

9 SENATOR RADER: That would be Exhibit No. 11, according to
10 my records. Is that correct, Recorder?

11 DR. TUSSING: Yes. Oh.

12 SENATOR RADER: All right.

13 DR. TUSSING: The second paper is entitled "Natural Gas
14 Supply Outlook for the West" and it is a summary of my
15 comments at a workshop on economic growth in the West
16 in Los Angeles in August.

17 SENATOR RADER: And that will be Exhibit No. 12.

18 (Whereupon Exhibits 11 and 12 were duly marked)

19 DR. TUSSING: The most important conclusions of the State
20 Task Force report are generally consistent with every
21 other important study and with intuitive common sense,
22 and they are the following: Firstly, that El Paso's
23 Trans-Alaska pipeline LNG tanker system would, if it
24 could be approved, financed, and built and operated in
25 the manner proposed by its sponsors, result in the
greatest net revenues to the State treasury and the

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1 greatest increase in Alaska gross product, personal
2 income and population. The Alcan systems impact would
3 be second in these respects and Arctic Gas third.

4 Secondly, with the Arctic Gas system, if it
5 could be approved, financed, built and operated in the
6 manner proposed by its sponsors, would result in the
7 lowest gas transportation costs to the Lower 48. In this
8 respect, the Alcan system seems to be second best and the
9 LNG system worst among the three.

10 The Task Force report makes one other crucial
11 point but without the emphasis I believe it deserves.
12 In view of the respective routes, design and construction
13 plans, the Alcan system seems to be least vulnerable to
14 cost and schedule overruns, and Arctic Gas the most
15 vulnerable, with El Paso somewhere in between.

16 Because of the questionable viability and the
17 financing problems of any transportation system for North
18 Slope gas, the prospect of substantial overruns may be
19 the most critical economic issue in choosing among them.

20 Moving to the contracts for a moment. I intend
21 to get back to the problems of financing. I make no
22 recommendation on whether the Legislature should ratify
23 these contracts. The members should understand, however,
24 that there is no amount of propaganda for lobbying by
25 Alaska or by the three purchasers which will produce a

1 decision in favor of an LNG system unless Canada makes
2 it clear that an overland pipeline system will not be
3 licensed or that Canada will not be able to come to a
4 decision in the foreseeable future.

5 I personally expect an unbroken chain of decisions
6 in the United States in favor of Arctic Gas by the FPC
7 staff, Judge Litt, the Federal Power Commission and
8 President Carter, based upon the record in the FPC hearing
9 and the investigations of other federal agencies. I do
10 not mean to imply that Arctic Gas is certain to be ap-
11 proved and to be able to build its system, but if the
12 Arctic Gas momentum is to be broken, it will not be the
13 result of any domestic politicking, but of some objective
14 development. For example, a clear signal of Canadian
15 intentions one way or another. While it is remotely
16 possible that El Paso or Alcan might get an important
17 endorsement somewhere along the line, what is almost
18 inconceivable is that the United States Congress would
19 overturn a presidential determination in favor of a
20 Canadian overland pipeline system to substitute its
21 judgment in favor of an LNG system.

22 The manifest superiority from a national point
23 of view of the overland pipeline system as available is so
24 overwhelming and the regional interests in the construction
25 of such a system in preference to an LNG system is so

1 overwhelming that the number of Congressmen, the number
2 of State Utility Commissions and the number of Governors
3 that the purchasers will be able to move on this is only
4 a small time fraction of the existing lead that Arctic
5 Gas has in this matter.

6 I think that it is instructive that in El Paso's
7 principal market area that there is virtually no support
8 for its project and in fact great skepticism about El
9 Paso's project for a number of reasons, not least that the
10 gas distributors do not want to be exclusively dependent
11 upon El Paso, as they would be, for all the gas entering
12 their market area. And secondly, they don't want the
13 State of California to be exclusively dependent on a
14 single point for the delivery of their gas, a point which
15 could be interrupted by, for example, a fire at Valdez,
16 which would leave them without any gas supply whatever
17 as their existing supplies would have been displaced east-
18 ward into markets or, for example, in the Tenneco and
19 Southern systems, for example.

20 There is simply no possibility, in my judgment,
21 that Congress would endorse an LNG system. Particularly
22 in the face of the cold wave that has now confronted the
23 Midwest and the East and which will have reinforced its
24 determination to get direct delivery of gas, and in view
25 of the developing Westcoast glut of crude oil which is

1 retrospectively viewed in Congress as the result of the
2 fact that they approved the wrong pipeline in the first
3 place for the oil.

4 These are circumstances that -- there is nothing
5 which the State of Alaska can do to change. I believe it
6 is clear the United States will favor an overland pipeline
7 through Canada. It also seems likely, that rightly or
8 wrongly, the Federal Power Commission, the Administration,
9 and Congress will accept Arctic Gas argument that an early
10 attachment of the Mackenzie reserves is in the United
11 States' interest and that the Mackenzie route has signif-
12 icant economies of scale compared to the proposed Alcan
13 system. But, the decision will in fact be made in Canada,
14 not in the United States. The United States will accept
15 any overland system that Canada is willing to build in
16 preference to any alternative system.

17 Canada's orders of preference between the Mackenzie
18 and Alcan routes are not so clear. There are a number
19 of reasons why the Alcan system may make more sense to
20 Canada and with your permission I would like to read a
21 couple paragraphs of my article in "Northern Perspectives"
22 on some of the Canadian reasons for favoring an Alcan
23 system.

24 "The probable reception of any Alcan proposal by
25 Canadian authorities has been a most difficult issue to

1 forecast. A major appeal of the Arctic Gas project is
2 purportedly its early (if not necessarily more economical)
3 attachment to the Mackenzie reserves. Without this
4 feature, it may be asked, what is the advantage to Canada
5 of accommodating the United States in moving Alaska gas?"

6 "The attachment of the Mackenzie reserves may, on
7 the other hand, be seen as a major disadvantage of the
8 Arctic Gas system, from at least one Canadian standpoint.
9 There is no particular reason why Canada should not ac-
10 commodate the United States with a transit line across
11 Canadian territory; after all, a substantial portion of
12 Canada's oil and gas supplies transits the United States.
13 There would seem to be little objection in Canada on
14 nationalistic grounds to American gas moving in either an
15 American or a Canadian-owned pipeline across Canada.
16 The Mackenzie project, in contrast, raises the issue of
17 an American-dominated consortium developing an important
18 frontier area of Canada. The fact that an early MacKenzie
19 connection is being justified in the United States by the
20 (doubtful) proposition that it would lead to greater
21 Canadian exports to the United States aggravates its
22 potential difficulties in Canada. Both its timetable and
23 logistics would be dictated by the convenience of the
24 American interests. The native claims and environmental
25 complications of this route are well known."

1 And incidentally, I expect that Justice Berger,
2 who is the commissioner for the Canadian government in
3 examining native claims and environmental implications
4 of the Mackenzie pipeline, will come out strongly against
5 the Arctic Gas proposal and against any major pipeline
6 development in the Arctic pending the settlement of the
7 native claims and the resolution of some presently un-
8 resolvable environmental issues. He will point out, I
9 believe, that neither of these objections is nearly so
10 strong with respect to a pipeline through the Yukon
11 Territory along the Alcan route.

12 "The 60 trillion cubic feet of proved reserves
13 in the western provinces", I think it's now about 62
14 trillion cubic feet in Alberta,"are enough to sustain
15 the expected growth of Canadian demand plus present export"
16 commitments "for about ten years. This would be the case
17 even if there were no further discoveries" in Canada, "but
18 recent exploratory results in Alberta have been rather
19 encouraging, more so in fact than in the delta area. For
20 this reason a decision on an Arctic pipeline carries much
21 less urgency for Canada than it does for the United States."

22 In other words, Canada does not need a pipeline
23 connection to its frontier areas for ten or eleven years
24 even if there were no further -- to be no further dis-
25 coveries in Alberta or British Columbia.

1 "More importantly, however, a decision today in
2 favour of immediate development of the Mackenzie Delta-
3 Beaufort Sea region can be seen to prejudice whether that
4 region or the Arctic Islands (where recent exploration
5 seems to have been more successful) shall be developed
6 first. Either project could strain the capacity of
7 domestic capital markets so that simultaneous construction
8 of the two major pipeline systems under Canadian majority
9 ownership is almost out of the question."

10 And I go on to say that it is not obvious which
11 of these considerations will finally come to play, but
12 "A decision in favour of Arctic Gas would" "be a reluctant
13 one". It would have to be in the face of a firm decision
14 by Justice Berger who in a sense occupies a similar
15 position as Judge Litt in the procedures in the United
16 States, and it "would be opposed by many quarters within
17 the Canadian federal government, by several provinces and
18 by a large body of Canadian opinion."

19 As you probably know, the Trudeau government faces
20 an election no later than the fall of 1978. The liberal
21 party is in great trouble, Trudeau is very unpopular at
22 the present time and to run over the Natives and the
23 environmentalists at this time in favor of an Arctic Gas
24 pipeline is probably unlikely, it would be a very im-
25 politic. So there is on the other hand and I have absolute

1 confidence in this, there is a determination at the
2 highest levels of the Canadian government to work out
3 some joint accommodation with the United States for
4 transportation of oil and gas and through exchanges of
5 oil and gas. And I believe that the Alcan proposal offers
6 a very important way out for the Canadian government of
7 its way out of its dilemma.

8 Turning back to our contracts and the prospects
9 of the Trans-Alaska Pipeline, the only serious substantive
10 argument for the El Paso system from a national stand-
11 point, the only one that has any credibility is that
12 Canada will not license an overland pipeline under terms
13 acceptable to the United States. Only Canada can prove
14 or disprove the truth of this proposition and the
15 Administration and Congress are going to wait for this.

16 Now the -- I do not want to say that there is
17 no chance for a Trans-Alaska pipeline. There is no
18 chance for a Trans-Alaska pipeline so long as there is
19 a chance of a Trans-Canada pipeline and there is nothing
20 that Alaska or El Paso or any of the purchasers can do
21 to influence the decision from the United States in that
22 respect.

23 The corollary proposition advanced by El Paso
24 that the Canadian government is incapable of granting
25 acceptable terms for an international pipeline because

1 its treaties don't bind the provinces is without merit
2 and can be easily dismissed. The premieres of both
3 British Columbia and Alberta have expressed their in-
4 intention to lay this question to rest to the extent
5 that the Canadian federal government cannot bind the
6 provinces. The provinces have independent authority to
7 make treaties and those of you who are familiar with the
8 Columbia River treaty will recall that it is a treaty
9 between -- or among the United States, Canada and the
10 province of British Columbia. Both Premier Lougheed of
11 Alberta and Premier Bennett of British Columbia have made
12 it absolutely clear that they have no objection to joining
13 in any protocol providing for nondiscriminatory treatment,
14 taxation, regulation, and for that matter a complete
15 quitclaim of regulatory jurisdiction over a transit pipe-
16 line that carries United States gas. So I think that
17 that issue is totally a red herring.

18 The scenario I see developing on the approval of
19 the pipeline -- or on the determination of a pipeline
20 route is that the Federal Power Commission will find in
21 favor of Arctic Gas, along the same lines as Judge Litt's
22 finding, on the basis that it is environmentally superior
23 on the basis that results in lower cost to consumers,
24 the basis it can be built faster, that it is more easily
25 expansible, and the whole range that the Federal Power

1 Commission will find it superior in every respect.

2 At about the same time the Berger Commission
3 findings in effect vetoing Arctic Gas will come out in
4 Canada. Now if you'll recall the language of the Alaska
5 Natural Gas Transportation Act, it says the presidential
6 determination -- the FPC recommendation, the presidential
7 determination shall be made without respect to whether
8 Canada has reached a decision on this.

9 What the FPC decision for Arctic Gas and the
10 Berger decision against Arctic Gas will trigger is
11 negotiations between the United States and Canadian
12 government and among the various proponents of gas pipe-
13 line systems to see what kind of system can -- is agree-
14 able to all the parties. And it seems to me that the
15 system that is going to be most acceptable to all the
16 parties is a system along the Alcan Highway but departing
17 in some degree from Northwest's and West Coast's strategy
18 for that. In other words it would be a higher capacity
19 pipeline than envisioned by the sponsors. As -- one
20 combination would be to use El Paso's engineering and
21 pipeline design for the northern part of the route.
22 El Paso believes that with high pressure, with 1670 psi
23 they can move up to 3 1/2 bcf a day through a 42 inch
24 pipe. I think that a 42 inch pipe is one of the
25 strongest elements in the Alcan design because that is

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1 the kind of pipe that can be rerolled in existing North
2 American facilities.

3 A disadvantage of the Arctic 48 inch scheme is
4 that it requires the building of a new plant by Stelco
5 for the production of that pipe and it introduces another
6 -- just another of a whole series of uncertainties into
7 what I believe is an oversized -- already an oversized
8 project.

9 So returning again to the contracts, I do not
10 see what the State accomplishes in terms of the advancing
11 of its goal by selling the gas now. I will -- in response
12 to questions I'd be willing to elaborate on what I think
13 the significance of these contracts are, but I would
14 like to go ahead and spend a couple minutes on what I
15 think some of the problems of building and financing an
16 Arctic Gas pipeline are, regardless of who built it.

17 There -- these projects are enormously risky no
18 matter what the sponsors and their financial advisors say.
19 Their ability to be financed in conventional -- by
20 conventional private means is extremely suspect. And
21 that -- I'm sure that Whitewell's representation to
22 El Paso and the financial advisor's representations to
23 Arctic Gas and to Northwest are qualified in the same way.
24 That is, if you get as much gas as you say you are going
25 to move through this system and if your costs are the

1 costs that your engineers say you will have and your
2 schedule is what your engineers say you can accomplish
3 and if you do get all the necessary approvals, then the
4 financial -- and you do get the all events full cost of
5 service tariff from the Federal Power Commission and the
6 state utilities that govern the distributors -- or the
7 customers of the system, then you can finance this
8 through conventional project financing.

9 What I would question is whether all those --
10 whether all of those conditions are certain enough that
11 the insurance company's pension funds and the other
12 institutional investors that have to buy this pipeline
13 would be willing to risk what may be Ten to Twenty Billion
14 Dollars in financing.

15 In the first place, there is uncertainty about
16 the gas supply. Now the -- I believe the State's
17 reservoir engineers project a probable production,
18 permissible production, or optimum production of about
19 2 bcf a day. Now that is about or perhaps below the
20 minimum threshold of Arctic and El Paso. That is about
21 the design threshold for Alcan.

22 Now it is conceivable that after two or three
23 years experience in oil production the Alaska conservation
24 authorities may conclude that that rate of production is
25 not in the State's interest, that the loss of oil -- the

1 value of the oil foregone by that production is greater
2 than the value of the gas produced. Nobody knows what
3 this is going to be. The fact that all the producers
4 and the State of Alaska and the gas purchasers all
5 believe that they can produce say two bcf a day safely
6 isn't good enough for the lenders. They have to have
7 some notion of what the likelihood -- the downside
8 likelihood is. And the downside likelihood -- if there
9 is only a ten percent chance that production will be
10 1.6 bcf per day and 1.6 bcf per day is not enough to
11 guarantee the payment of the debt on this pipeline,
12 then you just won't be able to go into the capital market.
13 We have the problem of delays in capital cost overruns.
14 Actual construction costs may exceed estimated costs by
15 substantially more than they affect general inflation.

16 Two years ago, with the help of the Library of
17 Congress, I did some research on this and was unable to
18 come up with a single large custom engineered construction
19 project in the United States over the last ten years
20 which had not exceeded its initial engineering cost
21 estimates by a factor of less than two. And the experience
22 in North America with big custom-engineered construction
23 projects has been that they typically cost two or three
24 times their original projections, even including an
25 allowance for inflation. The cost estimators are like

1 accountants and they prefer a solid, empirically based
2 figure. That is, so many cubic yards of cement at so
3 many dollars a cubic yard to a realistic figure. "They
4 do attempt to project the increase in anticipated labour
5 rates and in the prices of specific materials", and the
6 inflation rates for those specific materials, "but they
7 don't take into account the fact that huge projects,
8 particularly if they involve new technology", as both
9 systems do, both Arctic and El Paso does, "or a remote
10 construction site," and this would apply more to Arctic,
11 "usually don't work the first time around, nor that both
12 the purchaser and the licensing authorities change their
13 minds several times in the course of construction. The
14 cost engineers don't appreciate that such projects are
15 usually clumsily managed and are subject to a number of
16 re-organizations during their design and construction.
17 They don't allow for the fact that materials and equipment
18 are always late and often mis-specified or defective,"
19 and that such "enterprises" "suffer not normal, but
20 abnormal labour cost increases. Because of their size
21 and urgency, they are especially vulnerable to wage
22 pressure," and "to featherbedding, and" also "to
23 racketeering."

24 And I needn't go into great lengths on the
25 problems of the Trans-Alaska oil pipeline, which will --

1 whose costs will exceed by ten times the initial estimates
2 by the sponsoring companies. I do not project a ten time
3 overrun for Arctic Gas but I think that a doubling of
4 their present projections would not be an unreasonable
5 anticipation in view of the history of large projects in
6 North America. Let's assume that Arctic Gas or that El
7 Paso's project would cost Twenty Billion Dollars and that
8 it would have to be paid for in twenty years and "assume
9 that the investors should receive a 15 percent pre-tax
10 rate of return on total" investments. "Under a conventional
11 utility accounting scheme, the project would need a first
12 year cash flow of four billion dollars just to cover its
13 fixed costs. On a discounted cash flow basis" which is
14 a more rational financial way of looking at it but is not
15 customary in utility accounting, "the annual fixed charge
16 would be about \$3.2 billion."

17 But "with a throughput" of about "a trillion cubic
18 feet" a year, that is about three bcf, "we are talking"
19 about "\$3.20 to \$4.00 per thousand cubic feet" for
20 transportation costs alone. If less gas can be delivered,
21 if we are talking about two bcf a day, we are talking
22 about Five to Seven Dollars a thousand cubic feet. Now
23 "this charge doesn't include the cost of developing the
24 gas fields, any return to the producers," to the royalty
25 owners, any "operating costs or" any "costs of distribution."

1 Now both El Paso and Arctic insist that the
2 consumers will accept any price because of the rolled in
3 feature. Now not everybody agrees with this and in fact
4 none of the government sponsored studies -- the Aerospace
5 -- FEA study estimated that "no market for Prudhoe Bay
6 gas would exist in 1985 at a 'city gate' price exceeding
7 \$2.40 per million BTU (in 1975 dollars). The Interior
8 Department's study reaches a similar conclusion." Now
9 this price you are almost certain to get, "even without
10 implausibly large cost overruns or shortfalls" in the
11 gas distribution system.

12 Now, "one assumption of" these "studies mentioned"
13 "is that natural gas" prices have been decontrolled,
14 "and that the Alaska gas is" therefore "priced incrementally."

15 Incidentally, the -- I don't want to spend a lot
16 of time on it but it is not clear whether deregulation
17 would increase or reduce the price of Alaska gas. I
18 think there is a very strong case for expecting that it
19 would make Alaska gas less valuable for a number of
20 reasons. Deregulation would increase the price of gas
21 in the Lower 48 and therefore reduce consumption in the
22 Lower 48, increase production from the Lower 48 and reduce
23 the gap -- the shortage.

24 It would also reduce the amount of low priced gas
25 that the pipelines and distributors get which they can

1 roll together with expensive gas to come out with a
2 price that satisfies their consumers. Now I don't want
3 to predict absolutely that deregulation would make Alaska
4 gas less valuable, but I think that that's the probable
5 effect, that by easing the gas shortage in the Lower 48,
6 they make it less willing for gas distributors to pay
7 more for that gas than it is worth at the burner tip.

8 What it is worth at the burner tip to the average
9 consumer is roughly the price of fuel oil. Now there is
10 some consumers that will pay substantially more and some
11 who will pay only the price of coal or residual oil and
12 so on. But the average consumer is competing with fuel
13 oil. In a deregulated market, after a few years, you'll
14 find that gas distributors will not pay more than that
15 for gas because they don't have any cheap gas to average
16 it with.

17 So, anyway there are market risks -- there are
18 gas supply risks, market risks, cost overrun risks, and
19 of course you know about the political regulatory and
20 other institutional issues, things like native claims in
21 Canada, the fact that virtually nobody seems able to get
22 any sort of terminal in California. I have looked at
23 this problem again for several different agencies and I
24 wouldn't count on any proposal which requires a major
25 terminal in California at this time until there is a

1 substantial change in the internal institutions of that
2 state or a substantial change in federal-state relation-
3 ships.

4 It may be that there is just no way to put a
5 major terminal in California. Anyway you have these
6 problems, so you have the -- so these risks generate the
7 financing problems.

8 "The financial consequences of the risks I have
9 listed are magnified by the fact that neither "El Paso
10 nor Arctic "can be built in smaller self-sustaining
11 stages." Each is a total "integrated system which" will
12 not flow any gas or flow any cash until the whole thing is
13 completed. "Most of the capital invested", that is
14 Ten to Twenty Billion Dollars or more, will be exposed
15 to all the risk factors for the entire planning and
16 construction period.

17 Now private lenders "simply will not accept the
18 risks of this sort, and neither project's sponsors are
19 financially large enough to carry them, even if they were
20 willing to do so", and they are not willing to do so. All
21 of the projects propose an "all events" tariff in which
22 the sponsors would be guaranteed a return on equity, as
23 well as a return to debt service, whether or not any gas
24 is ever carried by their project.

25 El Paso proposes to use federal loan guarantees

1 and Arctic has talked about federal indemnification
2 for overruns. But, neither the "full cost of service
3 all-events tariffs" nor government guarantees are presently
4 in the works and none of these projects can be financed
5 without some sort of government backup. And this is
6 something that I think is independent of the numbers you
7 come out with on any particular thing.

8 The financing schemes are very conditional and
9 I think that all the sponsors are -- expect they will
10 ultimately have to go to the federal trough either for a
11 subsidy or a loan guarantee, which is the same thing as
12 a subsidy, because they will not be able to produce the
13 cash flow that they project and they will have overruns.

14 The President, when he makes his recommendations,
15 or the President in his negotiations with Canada, are
16 going to have to come up with something that can be
17 financed.

18 Now, turning to Judge Litt's conclusions on this,
19 Judge Litt is in effect asking somebody to build an over-
20 sized pipeline on speculation. He is saying that in view
21 of the vast amount -- the vast potential of the North
22 Slope, all the way from Pet Four through the State leases,
23 through the wildlife range, through the Beaufort Sea and the
24 Mackenzie Delta, there may be a vast amount of gas and
25 it is wasteful to build a minimum scale system as Alcan

1 proposes, simply to handle most economically the gas
2 that we know for certain can be produced. But, he is
3 asking somebody to take the risk and the somebody is
4 basically the investment community that is not going to
5 take the risk, even if the probability that the through-
6 puts necessary for Arctic Gas are -- say even if it is
7 a ninety percent probability that Arctic Gas is viable,

8 Then he turns around and says, "well, the oil
9 companies ought to take this risk." Well, the oil
10 companies are not in this business. The oil -- he is
11 asking the oil companies to put Three, Four, Five Billion
12 Dollars on top of the Four to Seven Billion Dollars it
13 is going to take to develop the field to produce the gas.
14 He is asking them to put it -- to take money that they
15 could use in high return risky ventures and put it into
16 an operation that is going to have a public utility rate
17 of return, where their going to be constrained to make
18 nine percent or something like that. And it just isn't
19 going to happen. It is an appeal to patriotism or
20 altruism or something like that that is completely un-
21 realistic.

22 If Judge Litt and the Federal Power Commission
23 and the President want a big diameter, high pressure
24 pipeline from the North Slope, they are going to have
25 to get the American people to pay for it and to accept

1 the risks through the political system and there is
2 nothing wrong, say with the principal of an all events
3 tariff as long as the probabilities are good, as long
4 as consumers have a substantial chance of benefiting,
5 why shouldn't the consumers take part of the risk? It
6 is not going to happen that way. The Public Utility
7 Commissions don't think the risks justify it, they don't
8 like the idea of socializing private risk in a situation
9 where the investors are guaranteed their return while
10 the consumers and the public take -- have the downside
11 risks. So, when the President of the United States and
12 the Premier of Canada get together to figure out what
13 the system is going to be, they are going to have to
14 look hard at the financing and the other system.

15 Now, looking at the faults of the Alcan system,
16 there is something from the point of view of the Federal
17 Power Commission. It seems to me that this principal
18 fault can easily be resolved. It is desirable to have
19 a forty-two inch pipe because that pipe can be built and
20 can be rolled in present mills and its -- the technology
21 is a lot more practicable.

22 El Paso believes that it can run a lot of gas
23 through -- a lot more gas at a higher pressure through
24 the pipe. If the Alcan people were granted a certificate
25 on the condition they would put in a heavy guage pipe.

1 which could operate with sixteen hundred seventy psi,
2 if the gas were available, by adding more power the
3 incremental costs would be relatively small.

4 I think these things can be settled but they
5 probably have to be settled in negotiations. It seems
6 to me in conclusion that none of the systems as presently
7 proposed and none of the financing arrangements are
8 presently viable, and that we have yet to see the last
9 of the combinations and permutations. I would say,
10 however, that there is nothing the State of Alaska can
11 do to advance a Trans-Alaska Pipeline LNG system within
12 the U.S. political system. If there is going to be
13 such a system, it will be selected by the Canadians
14 because of their inability or unwillingness to authorize
15 the prompt construction of an overland pipeline by one
16 route or another.

17 SENATOR RADER: Representative Meekins?

18 REP. MEEKINS: I don't know exactly where to begin.

19 SENATOR RADER: Maybe a motion to adjourn. As a matter of
20 fact we should have a recess motion. Let's take a
21 recess here for ten minutes.

22 (Whereupon the hearing was recessed at
23 4:00 p.m. and reconvened at 4:15 p.m.)

24 SENATOR RADER: The Committee will come back to order.

25 During the recess we had several conferences and we

1 decided that no matter what we did, we would have lots
2 of authority for doing it. So, and that includes
3 nothing, I guess. As I recall, Representative Meekins,
4 you had the floor when we recessed.

5 REP. MEEKINS: Thank you, Mr. Chairman. I hate to try to
6 characterize what you said, but as I understand it, you
7 say that while it is clear that the El Paso line provides
8 great benefits to the State, that in your view it seems
9 very clear that the contracts that were -- that are the
10 subject of this -- of these committees are irrelevant
11 to the decision upon which -- about which gasline will
12 win final approval and that the actual decision will be
13 made in Canada. If that is the case and if it is as clear
14 to you as it seemed in your presentation, how do you
15 explain the fact that administration experts say the
16 opposite?

17 DR. TUSSING: Well, I think that may be more your speciality
18 than mine. The purpose of these contracts is essentially
19 an internal Alaska political purpose. Suppose you were
20 the Governor and you had become -- and you were under
21 assault from OMAR and the Anchorage Times and from the
22 Anchorage business community for not having given one
23 hundred percent support to everything that the El Paso
24 enthusiasts wanted. And suppose as Governor you were
25 also convinced by your own investigations that El Paso

1 had very little chance and you're -- you would probably
2 be concerned that when Arctic Gas got the final nod
3 that these people would point the finger at you and say
4 that it is only because you didn't sell the royalty gas,
5 or its only because you made these noises about Alcan
6 being an acceptable second choice and that you didn't
7 dump all over the Canadians like we wanted to.

8 Well, it would seem that it would be an astute
9 political move to go ahead and call everybody's bluff.
10 You will recall that the Legislature almost unanimously,
11 under the leadership of Senator Rader, urged the -- in
12 fact, demanded that the administration go ahead and do
13 this. So the Governor now can come back to the Legis-
14 lature with what I think is really a contract that doesn't
15 mean anything for the --

16 REP. MEEKINS: Is this the hypothetical Governor?

17 DR. TUSSING: Yes, this is the hypothetical Governor. He
18 now comes back to the Legislature with this can of worms.

19 SENATOR RADER: A realistic can of worms, huh?

20 REP. MEEKINS: And a real Legislature.

21 DR. TUSSING: And you look at it and you decide there is some
22 problems with it, that the State may give up too much in
23 it and I think that Mr. Moody and Dr. Swanson have some
24 valid criticisms -- technical criticisms of the contract
25 or that maybe you shouldn't have sold all the gas, or a

1 whole series of reasons. Or, you may not be convinced
2 that you are buying any political influence. But, what
3 happens if you vote it down? And say -- where is the
4 finger going to point when Arctic Gas gets approved? El
5 Paso can say -- pick up its marbles and go home or some-
6 thing like that. It becomes a real psychological blow,
7 at least within Alaska, to the El Paso effort. And, you
8 guys, by voting this thing down bear the onus. You're
9 the ones who defeated the Trans-Alaska Gas Pipeline.

10 If you pass it, this hypothetical Governor has
11 exercised his leadership over this hypothetical fractious
12 and undisciplined Democratic Legislature and carried the
13 ball for Alaska. And, when and if Arctic gets the ap-
14 proval, he can show that he has done everything he could,
15 and, in fact more than anybody reasonably expected him
16 to do. He has done just what the enthusiasts for El Paso
17 -- what OMAR has been saying he should do all along. They
18 can't fault him on that. He has managed to carry along
19 these legislators who were riding off in every direction.
20 So, that -- that is what I think the fundamental signifi-
21 cance of these contracts are and that is why I say I am
22 not sitting in your seat, so I won't -- and I'm probably
23 not the kind of person who could ever get into one of
24 your seats. And so I won't advise you -- I won't advise
25 you of what you are doing.

1 SENATOR RADER: Representative Meekins still has the floor.

2 REP. MEEKINS: Mr. Chairman, I just want to thank you for
3 pointing that out. I never would have thought of it. I
4 would also like you to direct him to be more forthright.

5 SENATOR RADER: Quit beating around the bush, now. Senator
6 Colletta?

7 SENATOR COLLETTA: Yes. Dr. Tussing, you know that opened
8 an area that, since you are venturing opinions, it seems
9 to me out of the presentation on the political activities
10 rather than the economic ones that affect the line. You
11 missed the first day but the entire congressional delegation,
12 without regard to party, also say that on the national
13 level they want unanimity of support for this line.
14 Now, am I you know -- should I believe from a conclusion
15 of your answer to the last question, that all of us are
16 playing a game and isn't the parallel to this line
17 identical to the oil line that came to Alaska on a one
18 vote measure?

19 You know, I can't help but infer, at least in my
20 own mind, from what you are saying is that regardless of
21 what we do or the congressional delegation does, not only
22 Alaskans, that this decision will be made by two beings
23 and they don't need us, we're playing the game and I
24 would suggest that is wrong. I take offense to it,
25 because in the oil line there were those people who felt

1 very strongly that possibly a route other than through
2 Alaska was beneficial and stood up and took the flak.
3 And I would suggest that in this body right here there
4 are those who still have not concluded that maybe the
5 all Alaskan route is the way to go.

6 I really take great offense that you are lumping
7 us into playing a show, and that isn't true.

8 DR. TUSSING: Well, let me deal with the first question --
9 or the second question, and that is the parallel with
10 the Alaska oil pipeline. I don't see a significant
11 parallel. In that case there was only one proposition
12 before the Congress. There were no responsible corporate
13 sponsors for a Trans-Canada pipeline. There was the
14 unanimous support, the State of Alaska, the oil companies
15 and the administration behind that proposal. Yet the
16 opposition to it managed to mobilize something like
17 forty-two votes for a Canadian alternative which didn't
18 exist.

19 Now, we have an entirely different situation.
20 The momentum and the weight of the responsible corporate
21 sponsorship, the weight of the agency endorsements within
22 the federal government are all with the Trans-Canada
23 system. The momentum is there. When the Trans-Alaska
24 Pipeline bill was before the Congress in 1973 it was
25 right at the height of the Arab embargo and it was the

1 only thing there that Congress could possibly ratify.
2 And, it -- there is some question of whether it would
3 have gone through without all that -- without all those
4 preconditions. Now the momentum, the establishment,
5 the route to be arctic -- and it's got a far higher --
6 it starts with a far higher proportion of support,
7 despite the fact that it has got responsible corporate
8 opposition and it has got the State of Alaska and a
9 number of other entities opposed to it. It starts --
10 Arctic starts stronger in Congress than the Trans-Alaska
11 Pipeline -- oil pipeline ever got in Congress. So,
12 that I don't think it is parallel.

13 Now, going to the question of the delegation.
14 I hate to -- I'm a little diffident about beating my
15 own drum, but on major national, political questions
16 concerning Alaska, the biggest ones, our delegation,
17 whoever they have been, with perhaps one exception,
18 and our administrations, whoever they have been, have
19 been one hundred percent wrong on these issues and I
20 think that I have got a little better record on that.

21 Going back, for example, to the question of
22 whether the Secretary of the Interior could or would
23 lift the land freeze and be able to authorize the pipe-
24 line without the settlement of Alaska native claims, or
25 to a more fundamental issue, whether there was any legal

1 merit or political horsepower nationally behind the
2 native claims. That were -- with the exception of the
3 second in which Senator Gravel, when he did come in in
4 1970, was an advocate of the native claims, our delegation
5 and our State administration dismissed the possibility
6 that this could hold up the pipeline and I was practically
7 stoned out of Anchorage in 1969 when I told the Chamber
8 of Commerce that there couldn't be an oil pipeline for
9 maybe seven years and going through the things that had
10 to be done. Well, this was against the unanimous
11 consensus of our administration and our delegation.

12 Come again to about 1972, when the question of
13 the destination of the oil and the West Coast supply/
14 demand balance, you had unanimous profession by the
15 industry, by the federal administration, by the State
16 administration and by our delegation that demand on the
17 West Coast would exceed production, combined California
18 and Alaska production, and that the question of exports
19 to Japan was not a real question because there would
20 never be a surplus of oil on the West Coast. And, again,
21 I think that I was probably alone in the State in
22 maintaining that this would be a problem.

23 Our delegation and most Alaska public officials
24 suffer a disease which is endemic to isolated colonial
25 areas and that is, that it is very easy to believe ones

1 own propaganda, to have wishful thinking. Now, I can't
2 believe that our delegation really believes that there is
3 a substantial chance that they could get a majority political
4 vote for the Trans-Alaska pipeline.

5 I do know that it would hurt them very badly
6 politically in Alaska to come in and do the same kind of
7 thing I do, that is, deliver the bad news. Again, I have
8 very little chance of replacing Senator Stevens or
9 Senator Gravel because I do tell the voters and the
10 politicians the bad news rather than the good news. And
11 so, I can't go into their heads and say why is it that
12 they give unanimous support. I just ask you, what would
13 be the political -- what are the political risks to them
14 of saying there is nothing you can do to advance the
15 Trans-Alaska pipeline, better forget it, buddy. You
16 know what would happen to them, regardless of whether that
17 is their best judgment. There is no political to them
18 at all in saying, "Go, man, go. Let's do everything we
19 can for El Paso." So, I don't know what -- you know, I
20 don't know what is in their heads but I don't think that
21 you can really weigh their statements as an accurate
22 objective judgment of what is going to happen in the
23 United States Congress.

24 SENATOR RADER: Any further questions?

25 REP. CHATTERTON: Yes.

1 SENATOR RADER: Mr. Chatterton?

2 REP. CHATTERTON: Thank you, Mr. Chairman. Dr. Tussing, I
3 am told that there was a recent poll conducted by the
4 Rowan group of public opinion and the findings of that
5 indicated in the order of eighty to eighty five percent
6 of the citizens of Alaska favored an all-Alaska gas
7 line. Are you suggesting in the comments you just made
8 that we who represent those people should subvert their
9 opinions?

10 DR. TUSSING: Not at all. I'm saying that you -- you as
11 members of the Legislature have to make this judgment
12 for yourself on the basis of the way you judge public
13 opinion, and the way you judge what's right and wrong.
14 That is not for me to say. I said I will not recommend
15 the vote one way or another on this.

16 SENATOR RADER: Representative Gruening?

17 REP. GRUENING: Well, this may be a clarification of
18 Representative Chatterton's question, but, is public
19 opinion subverted whether we reject or approve these
20 contracts? As I understand it, the question before us
21 is approving these contracts and not necessarily the
22 support or non-support of the El Paso line. In your
23 testimony the two are not necessarily, in terms of actual
24 effect, are not synonymous.

25 DR. TUSSING: Is that a question?

1 REP. GRUENING: Yes.

2 DR. TUSSING: I don't -- I agree with you that the -- that it
3 is possible to be in favor of the Trans-Alaska pipeline
4 and to be against this contract, or say to conclude that
5 this contract doesn't affect the outcome.

6 SENATOR RADER: Representative Miles was seeking the floor.

7 REP. MILES: Dr. Tussing, you indicated that there was no
8 support for the El Paso project in its market area, I
9 believe. Am I correct there?

10 DR. TUSSING: No. I said there is no substantial support in
11 California. I was talking of California's principal
12 market area.

13 REP. MILES: Just California only?

14 DR. TUSSING: Yes.

15 REP. MILES: I see. Well, this is a major market area, I
16 understand.

17 DR. TUSSING: Yes, California is El Paso's biggest market
18 area.

19 REP. MILES: Why -- getting off of politics and onto economics
20 for awhile, why would El Paso spend so much money in
21 developing a project if there is no support there? Am
22 I missing something? I obviously am.

23 DR. TUSSING: Well, again you are asking me to speculate
24 about peoples motives and I can just try to put myself
25 in their place. El Paso, in the first place, wants to

1 assure its customers that it is doing everything it can
2 to obtain gas and a major campaign to build a pipeline
3 system -- a transportation system from Alaska into their
4 market area is such a gesture and it may earn them some
5 Brownie points even if they -- you know, even if they
6 aren't successful. That is one consideration. Now,
7 El Paso is also getting very heavily involved in LNG
8 technology all over the world and wants opportunities
9 to develop and expand this technology.

10 Now, whether or not how great a probability of
11 success they have, or they believe they have, I don't
12 know. I think it's probably a good gamble for El Paso
13 to stay in the race in the expect -- on the possibility
14 that Canadians might not come through. That then El Paso
15 is posed with an alternative system.

16 I would not say surely that the El Paso system
17 will be approved even if the Canadians can't get their
18 act together or if they turn down Arctic and Alcan, but
19 at least El Paso is certainly number one -- number one
20 in the line with this and they would -- if they success-
21 fully complete it -- financed it and completed it and
22 operated it, they would add more cash flow to the
23 corporate treasury.

24 Now, why do they want the gas? Why do they want
25 the royalty gas, because they are in the gas business.

1 They want gas to flow through their system. They would
2 want the gas to flow through their system regardless of
3 what system were chosen. I'm sure that once -- that if
4 a system other than El Paso was approved, El Paso will
5 be back here at the state trying to buy the royalty gas
6 and will be back trying to buy gas from the producers.

7 I don't think there is any mystery of what their
8 general motivation to the enterprise is and for risking
9 money for the enterprise. It is a perfectly legitimate
10 kind of corporate venture.

11 SENATOR RADER: Representative Swanson and then Senator Huber.

12 REP. SWANSON: Yes, I just -- I'll turn the clock back just a
13 couple of minutes and something has disturbed me through
14 all of these hearings, that we are here talking about a
15 gas contract and using data that is two years old. Now
16 I'm one of the people who endorsed a all-Alaska route two --
17 going on three years ago and we are still using that
18 support in the propaganda used today. We have not
19 passed a resolution since we came to this Legislature
20 endorsing --

21 SENATOR RADER: Representative, do you have a question of
22 the witness?

23 REP. SWANSON: Yes. Well, I kind of resented what was said
24 here awhile ago and I feel a little bit like that I have
25 the right at this table or any other table to state

1 that I don't think that the --

2 SENATOR RADER: If you feel you have been attacked, you
3 have a right of personal privilege but the purpose of
4 this hearing is to make answer -- ask questions of these
5 witnesses now.

6 REP. SWANSON: All right.

7 SENATOR RADER: If you wish to why proceed.

8 REP. SWANSON: I feel like you do, John. I would like to
9 ask you, in your remarks concerning the support of the
10 El Paso route, do you take of what has happened today
11 or two years ago?

12 DR. TUSSING: I'm not sure what you are referring to.

13 REP. SWANSON: Well, in your -- in your statements of the
14 Legislature totally supporting the El Paso route.

15 DR. TUSSING: Oh, the last session of the Legislature
16 adopted a resolution urging the administration to make
17 a gas sale to El Paso and to other supporters in the
18 Trans-Alaska route.

19 As far as I know, you are perfectly correct,
20 this Legislature has not adopted any resolution to that
21 effect.

22 REP. SWANSON: Thank you. Thank you, Mr. Chairman.

23 SENATOR RADER: Senator Huber?

24 SENATOR HUBER: Thank you, Mr. Chairman. Mr. Tussing, the
25 Four Dollar price that you mentioned on gas, is it correct

1 to assume that was an mcf and that it would compare to
2 Twenty Four Dollar a barrel oil price or Sixty-five to
3 Seventy-five Dollar a ton coal price with eight or nine
4 thousand BTU's assumed?

5 DR. TUSSING: Well, those -- those are the equivalent prices.
6 I don't want to be pressed to give a specific price
7 because one of my points is that nobody knows what the
8 price is going to be. It is very likely to be much
9 higher than the sponsors of any of these projects are
10 telling us, but whether the overruns are going to be
11 five percent or five hundred percent, we can only
12 speculate and so --

13 SENATOR HUBER: Would you care to expound on the saleability
14 of Four Dollar gas compared to Twenty-four Dollar oil,
15 at this time?

16 DR. TUSSING: That's -- it's a complicated question. The
17 value -- as I said before, the value of gas to the
18 average homeowner or commercial user is roughly the
19 value of fuel oil plus the -- say, some amortization
20 of his cost of conversion if he has to convert from oil
21 to gas, and so, so at the burner tip, gas is on the
22 average worth maybe Two Dollars and Twenty-five, Two
23 Dollars and Fifty Cents a million BTU today.

24 Now, if we expect the OPEC oil price to go
25 up roughly with inflation, maybe six percent a year.

1 and so on. We can expect that average value of gas to
2 go up. Now, the gas distributors gather together gas from
3 various sources at various prices and they sell it at an
4 average price. The gas distributors and the pipelines
5 are also required by their franchises or by their licenses
6 to provide this service -- to provide gas to all comers
7 at a cost of service price. And so, if they have a
8 shortage, if their demand is greater than their supply,
9 they're often -- they will be willing to pay more than
10 the gas is actually worth at the burner tip to acquire
11 it and put it in their system.

12 Otherwise, they have consumers in which they have
13 legal -- to whom they have a legal obligation to serve,
14 who go short. So that for small amounts of gas, at the
15 seasonal peak, or when there is some sort of emergency,
16 the gas distributors may be willing to pay Ten Dollars,
17 may be willing to pay the equivalent of One Hundred
18 Dollar a barrel oil to avoid turning off the valve to
19 their consumers. So -- but you can't take Ten Dollars
20 a thousand cubic feet as the value because you have got
21 to look at the whole cycle. Now, if the gas coming out
22 of the pipeline costs the distributors Six Dollars a
23 million cubic feet and he has got to -- or a thousand
24 cubic feet and he has got to sell it at an average price
25 of say Two Fifty, that means he has got to get a hell of

1 a lot for it in the peak season. He may have to get Ten
2 Dollars for it at the peak season and then he has got
3 surplus gas, he's paying for the gas that comes through
4 that pipeline in midsummer even though his regular
5 residential customers don't need it. And, in that case,
6 he has got to sell it in competition with coal for a
7 dollar or residual fuel oil for Two Dollars.

8 So, it's not -- there is no single market value
9 price and to know how much, say six hundred fifty bcf of
10 gas or say one hundred million cubic feet of gas per day
11 is worth to a gas distributor in Chicago or Los Angeles
12 depends upon how short they are, how much they have already
13 cut off their low priority customers, what their other
14 alternative gas supplies are. Do they have a lot of
15 flowing -- of gas flowing under old regulated contracts
16 where they are paying Thirty Cents or Fifty Cents and to
17 be used to subsidize the purchase of expensive gas. You
18 have to look at all of these things and then each
19 distributor figures out what the gas is worth to it and
20 what the cheapest alternative is. If it goes to -- say
21 it goes to Four or Five Dollars, they will look at making
22 synthetic methane from oil which is very expensive for
23 base load supply. It is more than the average consumer
24 will pay but if they are trying to -- if they are just
25 trying to fill a gap, it is a lot less risky to build a

1 propane air plant or a plant to make methane out of
2 naphtha for Four Dollars an mcf than it is to commit
3 yourself to twenty years of take or pay year in and year
4 out Four Dollar gas from Alaska. So, Four Dollars is
5 cheaper from an SNG -- from an oil SNG plant than it is
6 from a gas pipeline and I just can't give you the answer
7 and say at what point, at what price Alaska gas prices
8 itself out of the market.

9 The Interior Department's -- the FEA study that
10 says Two Forty -- Two Forty, that's too low in view of
11 their opportunity to roll it in. The El Paso's assertion
12 that the distributors will accept the price no matter how
13 much it costs is pure crazy. There is just no substance
14 for that, there is a limit and I can't tell you --
15 probably Dr. Swanson's firm has done work in this as to
16 what the long term limit to the city gate price is, but I
17 can't tell you. It is somewhere between Two Forty and
18 infinity. And I don't think its -- I really don't think
19 it's much more than Four or Five Dollars.

20 DR. SCOTT: Somewhat short. This way from infinity.

21 SENATOR RADER: Senator Huber?

22 SENATOR HUBER: Mr. Chairman, the other question I have, I
23 have trouble in phrasing it and I have noticed that you
24 have returned to being a bit on the tough side and I don't
25 think you will give me the latitude that you gave Senator

1 Colletta, so I'll let it go.

2 SENATOR RADER: Well, now that we have established that I'm
3 an unfair chairman, are there anymore questions? Mr.
4 Carpenter.

5 REP. CARPENTER: I'm going to make an extension of Senator
6 Colletta's question. Dr. Tussing, you said that you
7 angered the Chambers of Commerce by saying there was going
8 to be a hiatus in construction of a Trans-Alaska oil pipe-
9 line due to land claims and so forth?

10 DR. TUSSING: Yes.

11 REP. CARPENTER: Well, refreshing your memory a little bit,
12 you actually angered them because you said there was no
13 political chance of a Trans-Alaska oil pipeline, there
14 was going to be a Trans-Canadian oil pipeline and that is
15 what got everybody on you.

16 DR. TUSSING: I never said that. Never, never, ever.

17 REP. CARPENTER: Our memories differ.

18 SENATOR RADER: Are there any other -- I'd like to ask every-
19 body to keep themselves on the subject of inquiry here.
20 There is opportunity -- there will be opportunity for each
21 of us to express ourselves at a later time as to whether
22 Dr. Tussing's remark characterized a hypothetical or a
23 real governor or legislature or a congressman. We needn't
24 confront him with that today. Our purpose here today is
25 to take his testimony on the subject before us and I

1 would like to limit the questions to that if we might.
2 Senator Croft?

3 SENATOR CROFT: Could I interrupt your remarks and ask a
4 question? I am curious what you think the prospects are
5 that any pipeline, Arctic, El Paso, Alcan, or another
6 one if it is proposed, will actually begin construction
7 sometime in 1978. Judge Litt talks about a dollar well-
8 head value being about the upper limit and all of the
9 projections are that these -- each of these projects will
10 have a higher amount than that. You have talked about
11 all events tariffs and types of public financing that
12 haven't even been considered yet. What do you think the
13 prospects are? You have indicated Arctic is likely to be
14 approved, do you think that means that they can actually
15 begin the construction on the time schedule they are
16 talking about?

17 DR. TUSSING: I don't -- I'm very skeptical as to whether
18 Arctic can be built. I think it can be approved, that's
19 the -- I think it can be approved in the United States
20 and all other things being equal, it will be approved in
21 the United States. It will get the endorsement of the
22 FPC. But, shortly after the FPC decision we'll get the
23 Berger decision, the National Energy Board in Canada will
24 be second phase hearings next month. The NEB -- I don't
25 know what the NEB will do, it will probably hand the hot

1 potato to the cabinet -- to the Canadian cabinet. But,
2 once the FPC makes its decision and once Berger in effect
3 makes a contradictory decision, what is on the agenda is for
4 negotiations between the United States and Canada as to
5 what can be worked out. And the final decision depends
6 first on those negotiations and second on resolving a lot
7 of questions that involve both government and industry
8 that really haven't been confronted yet. One is the
9 financing question and in what manner shall the respective
10 governments provide the guarantees against the risks in
11 this system and practically any proposal is going to be
12 extremely controversial. Loan guarantees come -- again,
13 raise the question that your socializing the private risk
14 and letting the private owners have the profit, and there
15 is going to be a lot of antagonism in both countries.

16 You may recall that the Diefenbaker government
17 fell as a result of things resulting from the loan
18 guarantees to the Trans-Canada pipeline. The -- so that
19 -- it's a sensitive issue in Canada.

20 Another issue that hasn't yet become -- begun to
21 be confronted which is relevant to this royalty gas sale,
22 is how the gas is going to be allocated. If the -- if
23 there is still wellhead price control by the FPC, every
24 gas company in the United States is going to want some
25 of that gas and no company can offer the producers or.

1 the State of Alaska more favorable economic terms than
2 any other company. So, there is going to be a lot more --
3 there is going to be a lot more demand for that gas than
4 there is supply, assuming that some sort of viable pipe-
5 line system is hooked up.

6 The FPC is going to have to decide whose contracts
7 are going to be approved. And even though there is no --
8 there is no current legal authority for the FPC to
9 allocate gas and -- at least in non-emergency times
10 among pipelines the way it can allocate today and say --
11 say to Columbia, "you know, Tenneco needs the gas more
12 than you do, so we will turn down the Columbia contract
13 in the -- the proposed contract with Columbia in the
14 public interest because this other system is cut -- it's
15 jeopardizing its number one and number two priority
16 customers while you're still serving threes and fours."
17 So, the FPC is going to decide who gets the gas. That is
18 one of the reasons the producers aren't going out of their
19 way to sign contracts, because -- you know, why should
20 they choose one over another? They are not going to get
21 any price advantage and the contracts -- a lot of them
22 will probably be turned down anyway because the FPC wants
23 somebody else to have the gas. Well, that hasn't yet been
24 dealt with and if gas contracts are going to be used to
25 finance the pipeline, then these have to be executed

1 before a final financial plan goes together. So, in
2 summary, I don't see much chance for construction in --
3 beginning in '78 unless the U.S. and Canadian governments
4 bite the bullet and say, "we will provide the interim
5 financing and we'll guarantee the thing until you put
6 the final -- until all the final arrangements are made."
7 And I really don't see -- I don't see that. Maybe next
8 winter, if the questions before Congress and the Parliament,
9 and we have got another cold spell like this years, they'll
10 be willing to do it. They may send the Corps of Engineers
11 out to build the thing for all I know but -- but, I don't
12 see it starting in '78.

13 SENATOR RADER: Senator Croft, were you through?

14 SENATOR CROFT: No, I have another question. To what extent
15 do you feel that the assumption of the amount of gas that
16 is available on the reserves in the Arctic, Prudhoe Bay,
17 as well as the Mackenzie is an unrealistically high
18 assumption? Both El Paso and Arctic are big volume lines.
19 To what extent do you think their estimates of their
20 potential build up of throughput are realistic or un-
21 realistic?

22 DR. TUSSING: Well, if by the time -- by the time the system
23 is completed, I think there is a good chance that there
24 will be a lot more gas than we know about now. That isn't
25 enough to get -- to get the kind of debt financing I'm

1 talking to. A good chance isn't enough. A good chance
2 is enough to make a risk venture, but if you are risking
3 your own money and you say "I think there is going to be
4 plenty of gas there that we'll be -- that by the time the
5 thing goes on stream we would be able to produce four and
6 one-half bcf from those two areas and that's -- that's
7 the way to average expectation, and I'm willing to gamble
8 my money on that." That's fine, but the bond -- the bond-
9 holders want a ninety-nine percent assurance.

10 I think that there is merit to the notion that
11 society, that is, that the U.S. and Canadian governments
12 should take the risk and build a pipeline that is cheap
13 to expand. Now, if the governments are not going to do
14 it then the -- then the rationale -- the strategy of Alcan
15 is the only one that makes sense. You put in absolutely
16 minimum capital investment necessary to start that gas
17 and that cash flowing. I think that they have -- that the
18 Alcan people haven't scaled down their system as far as
19 they could. That, for example, they could drop Northern
20 Border out of the system and say, "we're going to -- we
21 expect the NEB to authorize or compel Trans-Canada to move
22 this east and then we'll take it through a Great Lakes
23 pipeline and we'll increase the power or whatever is
24 necessary there."

25 I think -- now, Judge Litt wants a western leg on

1 the Arctic pipeline and all the Western States want it
2 because they don't believe that they will get the gas
3 under reasonable prices by displacement. Well, the
4 western leg is physically superfluous, at least up to,
5 say one and one-half bcf going to -- going to western
6 systems. Well, so -- so, as part of the political
7 compromise you put the western leg into the system but
8 you don't build it until after the gas starts flowing and
9 the production builds up.

10 So, but if -- but if Canada and the United States
11 are willing to bite the bullet and say, "our best
12 geological assessment is that there is sixty or one hundred
13 tcf up there which can be discovered within the next ten
14 years, then let's go haul the hog, let's put in a high
15 capacity pipeline. Let's put a MacKenzie link, whether
16 it is on the Dempster Highway or the foothills or whatever,
17 as part of the phase two and build the thing so it is
18 compatible with the Mackenzie link and so on."

19 SENATOR CROFT: What you are saying is that a sale of the gas
20 will not have any effect on the route decision. What I
21 was really getting at to get you to comment on, do you
22 feel a -- (a) a refusal to sell any gas or (b) a refusal
23 to allow production of gas might influence a route decision?

24 DR. TUSSING: No. There is no credibility to such a threat
25 by Alaska because once the decision is made, the State's

1 got no -- the State's got no alternatives and all you do
2 by not allowing the gas to be produced -- you may cause
3 problems for oil production which causes the State a lot
4 of problems and you forego the revenue. And, I just can't
5 believe the State is stupid and spiteful enough to refuse
6 to produce the gas just because the rest of the country
7 didn't do -- didn't build the route the State wanted.
8 It just doesn't make sense. And so that threat has
9 absolutely no credibility. In the calculation of rates of
10 return or costs assuming only seven-eighths of the
11 production are just meaningless, you are just not going
12 to do that and nobody will believe that you'll do that.

13 SENATOR CROFT: What about the holding down the rate of
14 production?

15 DR. TUSSING: Well, there are some difficult -- there are some
16 difficult problems. Suppose your reservoir engineering
17 studies show that the optimum rate of production is 1.6
18 bcf below -- is below the economic threshold of any pipe-
19 line system but that you -- but you do run into trouble
20 by keeping injecting that gas and you're not going to
21 flare it. You have some tough -- you have got some tough
22 problems and I don't have an answer to that and let's hope
23 we don't have to face that one. But, it is entirely
24 plausible that you may have the level of production large
25 enough to give you problems as to what to do with the gas,

1 but not large enough to make any transportation system
2 viable. And, of course in the past what was done in that
3 sort of situation is what is being done is Saudi Arabia
4 and Venezuela and the other big isolated fields in the
5 world, they just burn the stuff.

6 SENATOR CROFT: Mr. Chairman. If a one in ten chance which you
7 referred to earlier is sufficient to keep investors from
8 backing any gas line, isn't the uncertainty about levels
9 of production such that it might -- that itself might
10 cause a delay in the pipeline?

11 DR. TUSSING: Yes, I think so. The --

12 SENATOR CROFT: Particularly when it is coupled with the
13 possible decision by the U.S. Government on deregulation
14 which may make Alaska gas -- not only might they face
15 a lower volume of Alaska gas but a less valuable Alaska
16 gas, if you couple the two together.

17 DR. TUSSING: Yes, all of these are just parts of a big
18 package of uncertainties that are going to cause difficulties
19 for any of these proposals.

20 SENATOR CROFT: Thank you.

21 SENATOR RADER: Representative Gruening?

22 REP. GRUENING: Dr. Tussing, as I understand what you said
23 earlier was that the Canadian government was going to
24 make the choice as to whether it was for either Alcan or
25 Arctic. How is the President going to feel comfortable

1 with making a decision, certifying a route without that
2 stage in the negotiations being very certain? Are they
3 going to amend the Alaska Natural Gas Transportation Act
4 so he has more time? In other words, he has until July --
5 or September first and then ninety days if he wants to
6 extend it. Is he going to feel comfortable with making
7 that kind of decision without those things resolved?

8 DR. TUSSING: I think what he is going to do is as soon as
9 the FPC decision comes down, and it may be happening right
10 now, he is going to start talking with responsible
11 Canadian authorities about -- oh, to what -- what kind
12 of compatible decision we can come out with. And, I
13 don't think that the Canadian authorities know what their
14 political constraints are yet, until Berger has actually
15 published his findings and there has been the -- a chance
16 for a discussion of it and for the bureaucracy -- for
17 them to read the FPC decision in the United States.

18 But, if the President makes the decision, say at
19 the end of '77, you can count on its reflecting his
20 discussions with the Canadians and he is not going to
21 make a decision which is totally incompatible with what
22 he thinks the Canadians are going to do. And both
23 countries are going to bend over backwards not to appear
24 to be forcing the hand of the other and to be blackmailing
25 the other that there -- or leapfrogging or something like

1 that. They're going to try to make it -- they're going
2 to try to come out with compatible decisions, whatever
3 the --

4 REP. GRUENING: You seem to raise the same arguments that the
5 El Paso people raise in terms of the unsolvable Canadian
6 questions and I think, you know, the same statements
7 seem to be made in terms of the problems. Now, are those
8 problems going to be resolved to the extent that the
9 President can make a decision certifying say a Canadian
10 route and not -- coming back at a later time and say,
11 "I'm sorry, we can't -- the Canadians just decided that
12 they can't go either route, we're going to have to go to
13 an El Paso --"

14 DR. TUSSING: Well, the law says that he has to make the
15 decision whether or not Canada has -- he has to make a
16 decision on its merits whether or not Canada has made a
17 decision. And, irrespective of what the process in
18 Canada is, in reality it's going to be a joint decision
19 once the -- once the thing has gone through the regulatory
20 and hearing phases of it and I don't know the exact
21 mechanism by which the United States and Canada will
22 consult on this. I'm sure no mechanism has been set up.
23 But, it's not an insoluble problem, it's a problem whose
24 answer -- whose outcome is impossible to predict with
25 competence now. I don't think anybody can come out with

1 a solid prediction of what will happen in Canada, much
2 less -- I'm as willing to do it as any Canadian. There
3 is no authoritative -- there is nobody who has the
4 authoritative position in Canada to say what Canada's
5 position is on this. But, Canada will have a position
6 of some sort and it will influence the President's decision.

7 I think that the -- that there is a good chance
8 that the compromise between the FPC's decision in favor
9 of Arctic and Justice Berger's decision against Arctic
10 will be some kind of expanded Alcan system. That is my
11 guess, but I wouldn't give it more than a fifty percent
12 probability. One substantial possibility is that Canada
13 will not authorize any pipeline or will postpone it till
14 after the elections and the President may decide that we
15 have to go ahead with our own system because of our
16 internal needs, even though it's not -- even though it is
17 the second best. So, my ability to forecast or prophesise
18 is strictly limited on that.

19 SENATOR RADER: Representative Meekins?

20 REP. MEEKINS: Thank you, Mr. Chairman. Dr. Tussing, you
21 stated in your comments that this contract, in your view,
22 was not essential, that we weren't -- essentially that you
23 weren't getting very much in the contract but looking at
24 it from the other perspective, what are we losing, if
25 anything? Are we losing anything by approving it?

1 DR. TUSSING: Well, it is -- it is conceivable that the Trans-
2 Alaska route, or for that matter an Alcan route, after the
3 State shifts to it, if it does, will be approved and that
4 these contracts will be the basis of contracts under
5 which gas actually flows.

6 I'm rather doubtful, even in this situation,
7 whether the FPC will approve just these contracts for a
8 number of reasons. But -- but it's possible you may be
9 stuck with these terms and they are probably not -- not
10 the best terms you could get in a bidding situation after
11 the -- after the pipeline is -- route is clear. Certainly
12 there may be opportunities in a deregulated situation to
13 get a more favorable situation. I don't want -- I don't
14 want to speculate too far on that, but your other
15 consultants who have examined the contracts in detail
16 point out ways in which the State has given up options. So --
17 So, in case they go into effect you have given it up. I
18 do have one specific criticism of the contracts even
19 starting -- even from the presumption -- the premises
20 from which the administration is starting, that is, that
21 you are going to buy some political support.

22 And, I don't know why you had to commit one hundred
23 percent of the gas and I think there is some -- there are
24 a couple reasons why you probably shouldn't commit one
25 hundred percent of the gas. Firstly, you have this most

1 favored nation clause, that is, that the price is the
2 highest price paid by any interstate purchaser. Now,
3 it may well be possible for the State, if it kept some --
4 held some gas back to find a purchaser who would pay a
5 higher price than any of the others and jack up the fate.
6 If it kept some -- twenty-five percent out and waited
7 until -- waited until the bidding process at the time
8 of the completion of the pipeline, you might be able to
9 get a higher price than any of the sales from the -- by the
10 operators because the State might be in a position to
11 sell to a nonjurisdictional purchaser, or to one that
12 has a special tax advantage, like a state entity.

13 And, I would like to see you have the opportunity
14 to use that twenty-five percent to jack up the price on
15 the remaining seventy-five. Then the other is -- in the
16 administration's presentation and within the whole rationale
17 for the thing, there seems to be a high probability of
18 a shift in route -- of a shift to Alcan, for example.
19 And, if that is serious, if that is not just window
20 dressing, then it would seem to me you would want to keep
21 twenty-five percent out to -- and to offer it to Northwest
22 at that time that the State moves to the Northwest position.
23 Otherwise, the option of shifting doesn't seem terribly
24 great. So, even if I were -- even if I accepted all the
25 other premises, I don't see the reason for selling more

1 than three-quarters of the gas at this time.

2 SENATOR RADER: Representative Meekins?

3 REP. MEEKINS: Do you happen to know if that -- if the most
4 favored nation provision, as you call it, in there would
5 apply to sales to users? I'm not sure it would.

6 DR. TUSSING: I don't have it in front of me but if I recall
7 the language, it's in any interstate sale. It doesn't --
8 or any interstate purchase and so it doesn't characterize
9 the purchaser. It would seem to me it would -- frankly,
10 I don't see why in a deregulated situation it should be
11 limited to interstate sales since -- since, if the gas
12 is worth Two Dollars in-state, to an in-state purchaser,
13 you shouldn't sell it for One Dollar to an out-of-state
14 purchaser.

15 But, as Mr. Moody says in his prepared statement,
16 it may not be that you can get any contract which includes
17 a -- you know, includes that -- all these provisions.
18 That's a matter of judgment that is up to the negotiator,
19 he really has --

20 REP. MEEKINS: Well, I'm trying to find out if there is any-
21 thing we are really losing, in your view, in approving
22 this contract. You know, we've heard that that -- that
23 problem that you point out that we may be losing a higher
24 price by not having reserved the twenty-five percent so
25 we can jack up the most favored nation provision in there.