HJR

35

FISCAL NOTE

STATE OF ALASKA
1997 LEGISLATIVE SESSION

BILL NO. HJR 35

Dept. Affected
BRU:

Components:
Serial #

Title: Encouraging Federal Legislation to improve federal fiscal terms for TAGS

Sponsor: House Special Comm. on Oil & Gas

Requestor:

EXPENDITURES/REVENUES: (THOUSANDS OF DOLLARS)

OPERATING	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03
Personal Services	0.0	0.0	0.0	0.0	0.0	0.0
Travel	0.0	0.0	0.0	0.0	0.0	0.0
Contractual	0.0	0.0	0.0	0.0	0.0	0.0
Supplies	0.0	0.0	0.0	0.0	0.0	0.0
Equipment	0.0	0.0	0.0	0.0	0.0	0.0
Land & Structures	0.0	0.0	0.0	0.0	0.0	0.0
Grants, Claims	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0

CAPITAL	0.0	0.0	0.0	0.0	0.0	0.0

REVENUE	0.0	0.0	0.0	0.0	0.0	0.0

FUNDING: (THOUSANDS OF DOLLARS)

General Fund	0.0	0.0	0.0	0.0	0.0	0.0
Federal Fund	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

POSITIONS:

Full-Time	0	0	0	0	0	0
Part-Time	0	0	0	0	0	0
Temporary	0	0	0	0	0	0

ANALYSIS: (ATTACH A SEPARATE PAGE IF NECESSARY)
see attached analysis

Prepared by: Co-Chair Scott Ogan
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REPRESENTATIVE MARK D. HODGINS
House District 9

Sponsor Statement

HJR 35

Encouraging federal legislation to improve federal fiscal terms for a trans-Alaska gas pipeline.

HJR 35 is a statement by the 20th Alaska Legislature urging Alaska's congressional delegation to enact legislation that would seek to improve the competitiveness of the trans-Alaska gas pipeline.

The State of Alaska recently commissioned a report, by Dr. Pedro Van Meurs, on the economic viability of the trans-Alaska gas line. Dr. Van Meurs found that the project would need some state and federal fiscal adjustments in order to stimulate the project investment structure. **HJR 35** will encourage Alaska's congressional delegation to sponsor the fiscal legislation necessary to complete the federal portion of the fiscal package.

There is already ample justification to adopt favorable legislation for the gas line from a federal perspective. The trans-Alaska gas line project would establish a substantial new source of taxable income. Billions of dollars would be generated in federal corporate income tax. Based on a scenario of $3.50 per million cubic feet (mcf) and an estimated cost of $12 billion the project would generate approximately $26.7 billion in tax income for the federal government over a 30 year period. The project could also improve the United States trade deficit with Asian countries.

We have heard, repeatedly, that the Asian market window for natural gas sales will begin around 2005. The Asian market is eager to purchase north slope gas and Alaska must proceed immediately with the gas project if we are to participate in this market window. Fierce competition among suppliers is expected from foreign gas projects and therefore Alaska needs to offer a coordinated proposal at a competitive price. Given the short time frame for establishing an economically viable project, it is important to begin the formation of a fiscal platform as soon as possible. By coordinating our efforts we will shorten the timetable needed to bring this project on line and thereby increase Alaska's ability to establish a place in the competitive LNG market.

The need for a unified message from Alaska is critical in portraying fiscal and political stability as well as instilling confidence within the Asian marketplace. It is imperative that the Federal government, State of Alaska, and Local governments work together toward a unified position that will enhance the economic competitiveness to bring this project from concept into actuality. **HJR 35** will assist in that capacity.

SUGGESTIONS FOR NEW TERMS FOR THE ALASKA NORTH SLOPE LNG PROJECT

EXECUTIVE SUMMARY

by

Dr. A. Pedro H. van Meurs
February 12, 1997

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SUGGESTIONS FOR NEW TERMS FOR THE ALASKA NORTH SLOPE LNG PROJECT

1. INTRODUCTION

The North Slope of Alaska contains natural gas reserves of about 35 trillion cubic feet. Most of these reserves are contained in the Prudhoe Bay field. One of the ways in which these reserves can be produced is through the export of the gas in the form of LNG (liquid natural gas).

A possible LNG project could be an important source of revenues for the State of Alaska and would create significant employment and business opportunities. It is therefore important for the State of Alaska to analyze the possible optimal fiscal conditions under which this project would become a reality.

The Revenue Department of the State of Alaska requested the consultant to provide a report on possible new fiscal and other terms for the Alaska North Slope LNG project. The study is based on a comparative analysis of international LNG terms and conditions. This executive summary reflects the main conclusions and recommendations of this analysis.

2. PROJECT DESCRIPTION

A possible initial LNG project could produce and export about 14.5 million tons of LNG per year. This level might be reached over a six year period increasing sales volumes by about 2.5 million tons per year. The project would use initially the gas reserves of the Prudhoe Bay field. A large conditioning plant, a large diameter gas pipeline and a liquefaction facility in Valdez would be required. A fleet of about 14 LNG tankers would ship high Btu gas to East Asian markets starting in the 2005 - 2010 period. This project configuration was used as the basis for the recommendations in this executive summary.

Alternative configurations of the project are also possible. A gas pipeline could be built to the northwestern Alaska coast and ice-breaking LNG tankers could be used for the gas export. The Point Thomson gas reserves could be used from the start of the project.

The ramp-up speed is an important economic variable in the project and could be faster than the 6 years assumed in the basic project configuration.

In the case of the Alaska North Slope LNG project the competitive conditions do not only apply to the profitability of the investment opportunities, but relate also to the market access of the gas. The fiscal system has to enable investors to conclude the necessary gas sales in the East Asian region.

One of the consequences is that the fiscal structure Alaska LNG project as a whole - the upstream and well as the downstream - has to be considered.

3.2.2 STRUCTURE OF THE GOVERNMENT TAKE

With respect to the structure of the government take there are two important issues, which are progressivity and back-end loading.

3.2.2.1 PROGRESSIVITY

A progressive fiscal system is a system whereby the government take is modest in case of conditions of low profitability and high in case of high profitability. A progressive fiscal system achieves the highest level of economic activity in conjunction with the highest level of economic rent extraction.

A regressive fiscal system is a system whereby the government take is high in case of conditions of low profitability and low in the case of high profitability. A regressive system results in a situation where marginal projects will not be undertaken and whereby the government is not earning the highest possible economic rent in case of high profitability.

The most efficient way to promote optimal economic activity with effective economic rent collection is therefore to adopt a progressive system.

It should be noted, however, that progressive systems have a drawback for governments. They result by their very nature in important swings in government revenues if there are important changes in prices or costs. In order to properly manage a progressive fiscal system a government has to have a "buffering" system in place, such as a special fund to which government contributes when prices are high and which the government could use in case prices are low.

At the same time it should also be noted that large corporations look for "upside" in an investment and a severe reduction of the upside would reduce the investors interest in the project.

4.1.1 UPSTREAM

4.1.1.1 BONUSES

Alaska employs a system of competitive bonus bidding for the allocation of acreage.

4.1.1.2 RENTALS

Surface rentals in the Prudhoe Bay area are $ 1 per acre.

4.1.1.3 ROYALTIES

Royalties for Prudhoe are 12.5% of the value at the lease boundary. A processing allowance of $ 0.18 per Mcf is permitted for gas as a deduction from this value. This allowance escalates with inflation.

4.1.1.4 SEVERANCE TAX

The severance tax rate for oil is 12.25% for the first 5 years and 15% thereafter and for gas it is 10%. The severance tax is calculated on the value at the lease boundary less royalties. For gas there is a processing allowance of $ 0.20 per Mcf (assumed pending draft regulations). Also there is minimum severance tax of $ 0.064 per Mcf regardless of the price.

The severance tax for oil and gas is reduced by the Economic Limit Factor (ELF). This factor varies between 0 and 1 and depends on the daily well production in the case of oil and gas and also total daily field production in the case of oil.

4.1.1.5 CORPORATE INCOME TAX

The federal corporate income tax rate is 35%. Losses can be carried forward and interest is a deductible expense. Depreciation for federal purposes varies from asset class to asset class and is based on the MACRS system. Typically, the conditioning plant would be depreciated over 8 years.

The Alaska corporate income tax rate is 9.4% applied on a unitary world-wide basis of income. The experience of Alaska is that Alaska only receives about half this amount as a result of the apportionment procedures. The Alaska corporate income tax is deductible for federal corporate income tax purposes, creating a total tax rate of 41.1%.

On average, the total Alaska fiscal system (Federal, State and local) is:

-- slightly regressive or slightly progressive on a total project basis depending on the economic conditions and the tax position of the investor, and

-- front-end loaded.

This means that the Alaska fiscal system is not optimal for an LNG project.

The rate of return to the investors is less than it needs to be. The rate of return is particularly negatively affected under marginal economic conditions. However, under high price scenarios, the total government take is less than it could be.

The current Alaska fiscal system could therefore be improved in order to make the LNG project more attractive by making the project more profitable and less risky. The system could also be improved by making it a more effective economic rent collector.

5. COMPARATIVE ECONOMICS

5.1 FINANCIAL EVALUATION CRITERIA

5.1.1 HURDLE RATE

Probably the most important yardstick for assessing the profitability of the Alaska project is the "hurdle rate".

The hurdle rate is the minimum cashflow rate of return that the project has to have in order to be considered economically attractive by the investors. Many companies determine the hurdle rate after all taxes and before financing. The hurdle rate can be determined on a current or constant dollar basis. The hurdle rate depends on many factors, such as the rate of return of other opportunities, the average cost of capital, the project risks and financing opportunities.

Hurdle rates are different from company to company because the factors that determine the hurdle rate are different for each company. This means that some companies may consider a project profitable while others may not. For large projects, companies may have different hurdle rates per project depending on the project risk.

This indicates that the competitive rate of return for LNG projects that are being launched at this moment is in the range of 13 - 17% for the price range of $ 3.50 to $ 3.90 per MMBtu CIF Korea or Japan on a total project basis.

5.1.1.2 COST OF CAPITAL

The hurdle rate has to be equal to or higher than the weighted average cost of capital after adjustment for risk. The weighted average cost of capital of a company is the after tax cost of all its capital sources in the form of debt and equity. For large oil corporations with a relatively modest debt, the current cost of capital can estimated in the range of 9% to 11%. It is not economic for a corporation to invest in a project if the project does not make at least a rate of return that is equal to the weighted average cost of capital after adjustment for risk.

Successful companies have projects with rates of return that are above the weighted average cost of capital.

5.1.1.3 ALASKA PROJECT RISK

The relative risks of the projects is also an important factor in deciding about the attractiveness of a project and in deciding about the hurdle rate for the project. It should be noted that relatively speaking the Alaska project cannot be considered a low risk project under current conditions. There is a great variety of project risks. The following table is a comparison between the Alaska project and the Ras Laffan project of the project risks involved:

RELATIVE PROJECT RISK ALASKA - RAS LAFFAN		
	Alaska	Ras Laffan
RISKS:		
Regional conflict risk	Very Low	Very High
General country risk	Low	Average
Gas reserve risk	Low	Very Low
Gas price risk	Aver - High	High
Regulatory/legal risk	High	Low
Risk of cost overruns	High	Low
Market access risk	High	Average
Fiscal stability risk	High	Low

5.1.1.4 FINANCING

With respect to the Alaska LNG project it is important to emphasize that the analysis of the project on a no-financing basis does not do the Alaska project justice. In the United States, interest is a tax deductible expense. Furthermore, the financial markets perceive North America as a low risk area in which a high leverage of the downstream operations is possible.

Finally, the incremental investments in the Alaska LNG project are primarily in downstream operations which are highly financeable.

The high degree of financeability of the downstream operations makes the incremental cost of capital less than the weighted average cost of capital of the corporation.

Given these considerations it is important to consider the comparative economics either on an after financing basis or provide some decrease in the hurdle rate in order to recognize these factors. The rate of return after financing would be the rate of return on equity ("Project ROE"). This means the rate of return on total capital less the debt.

5.1.1.5 TOTAL PROJECT VERSUS ITS COMPONENTS

The risk on the total project and its components are not necessarily the same. The downstream components could be constructed under relatively low risk contractual arrangements with the producers. The producers would run the risk of cost overruns, price declines and other risks.

Therefore, for the determination of the netback value and for royalty purposes one would use a rate of return that is lower than the total project rate of return and would represent the lower risk. Also the costs of capital for the downstream components is typically lower than for the upstream component. The rate of return would be a Cost of Service rate of return.

In order to assume all the project risks, the liquid penalty and earn a reasonable return on the project development investments, the producers will have to have a reasonable minimum netback value for the gas. It can be estimated that this value is about $ 0.98 per Mcf. If downstream operators would assume more risk, this value could be lower but in this case the cost of service of the downstream operations increases because of the need for a higher rate of return in order to assume this risk.

The rate of return is dependent on the ramp-up speed of the project. A unique feature of the Alaska project is that a long distance high cost gas pipeline is required. The quicker this line can be filled with production, the higher the rate of return will be. If the ramp-up would be 3 years, the ROR would be approximately 0.7% higher. Such a fast ramp up, however, is improbable due to market restrictions. Currently, the total Pacific LNG market is increasing by about 2.5 million tons per year and many projects compete in this market.

It therefore appears that the Alaska North Slope LNG project is not economic under current conditions, even if the costs could be dropped to $ 12 billion and the ramp-up speed could be increased.

However, improvements in the fiscal system together with a reduction of project risk could make the project attractive.

5.3 ALASKA PROJECT ON THE BASIS OF OTHER FISCAL SYSTEMS

5.3.1 OVERALL FISCAL BURDEN

The overall fiscal burden imposed by Alaska on a possible LNG project is tough in comparison with other LNG exporting countries.

The relative burden can be most accurately measured by applying the fiscal terms of other jurisdictions to Alaska North Slope economics.

In such a comparison the economics of Alaska, Canada and Australia are measured on a consolidated basis and the economics of the other LNG exporting countries is measured on a stand alone basis. The following table provides the comparative analysis of the ROR for two scenarios, $ 15 billion costs with a price of $ 3.50 and $ 13.5 billion costs with a price of $ 3.90:

This is a very strong indication that the Alaska fiscal terms are not competitive with the "outer circle-high cost" jurisdictions.

5.3.2 STRUCTURE OF THE GOVERNMENT TAKE

An important issue in international fiscal systems is the structure of the fiscal system. The structure of the fiscal system can be analyzed by reviewing the level of government take under various scenarios.

The government take is defined as the percentage that the government obtains of the economic rent. The government take is usually expressed as a percentage of the undiscounted rent, although economic rent is usually determined on a discounted basis.

The following table provides the undiscounted government take in percent for the two scenarios:

GOVERNMENT TAKE OF DIFFERENT FISCAL SYSTEMS BASED ON ALASKA ECONOMICS			
	Costs/price:	15B- $ 3.50	13.5B- $ 3.90
	Project:		
ALASKA	North Slope	40.4%	41.7%
INNER CIRCLE-LOW COST:			
Brunei	Lumut	46.6%	49.8%
Indonesia	Arun	57.5%	59.9%
Malaysia	Bintulu I ,II	61.2%	66.4%
Malaysia	Bintulu III	61.2%	66.4%
Vietnam	Offshore	38.2%	47.9%
OUTER CIRCLE-HIGH COST:			
Abu Dhabi	Das Island	44.4%	45.6%
Australia	All projects	33.7%	36.1%
Canada	PACRIM	35.2%	39.9%
Indonesia	Irian Jaya	48.7%	50.7%
Indonesia	Natuna	25.6%	25.9%
Oman	Shell	21.6%	19.4%
PNG	Hides	27.3%	28.1%
Qatar	Qatargas	33.1%	30.8%
Qatar	Ras Laffan	34.4%	33.7%
Russia	Sakhalin II	37.5%	38.2%
Yemen	Hunt	35.3%	49.5%

This means that the "outer circle-high cost" countries compete by introducing one or more of the following fiscal concepts in their fiscal system:

-- a lower government take
-- a progressive government take, making the $ 3.50 case more attractive,
-- a back-end loaded government take, or
-- investment "subsidies".

Alaska employs none of these features and it is therefore that the Alaskan terms are the least attractive for investors among the "outer circle-high cost" jurisdictions.

In addition to the basic government take, many jurisdictions employ direct government equity participation in the project. This is in particular the case for Qatar, Abu Dhabi, Oman, Yemen, Brunei and PNG. This increases the government take on a "Participation" basis substantially. However, these governments share in this case the commercial risks with the investors.

5.4 COMPETITIVE POSITION RELATIVE TO OTHER PROJECTS

5.4.1 ALASKA ON THE TIME LINE

The projects in Qatar (Ras Laffan and Qatargas), Oman and the NW Shelf expansion project all are ahead on the time line relative to Alaska. The Qatargas project has already started. Oman and Ras Laffan have already specific sales contracts.

The total production capacity of the four projects together is 23.4 million tons of LNG per year. As indicated, the projects also have a Project ROR which are more attractive than the current Alaska project. It is unlikely that the Alaska North Slope project could be launched ahead of these projects.

The Alaska project would therefore primarily compete with a second tier of projects.

5.4.2 COMPETITION WITH RESPECT TO SECOND TIER PROJECTS

The economic information on most of these projects is still rather limited. Project ROR figures for these projects are therefore only indicative. Only very generalized economic analysis can be done with a wide range of error.

5.5 *EFFECT OF TIME ON THE PROJECT*

The effects of time on the Alaska LNG project are important.

As indicated earlier, the ramp-up speed could add about 0.7% to the Project ROR if the ramp up time could be reduced from 6 to 3 years. It is likely that the ramp up time could be reduced somewhat over time.

By the year 2010 the Pacific markets may increase at a rate of 3 million or more per year instead of 2.5 million tons per year. This might result in a situation where the ramp up time could be reduced to 5 years or 4.5 years. This would increase the rate of return and make the market access risk less.

At the same time the liquid loss which is estimated at 384 million barrels if the project starts in 2005 might be reduced to less than half this amount by the year 2010. This would add about 0.2% to the Project ROR.

A general benefit to Alaskan's might be that over time the CIF prices for gas in East Asia may increase in real terms, creating a considerably higher economic rent which in turn would result in much higher government revenues.

The main drawback of delays in the Alaska project is that the project may be "nibbled to death" by small projects coming in ahead of the Alaska project. Petroleum exploration in Asia used to be primarily for oil. Gas was considered a by-product. However, the strongly emerging gas markets in Asia have now created a situation where petroleum companies are now exploraing for gas.

Exploration in Thailand, Pakistan and China is in many cases aimed at discovering gas. Vietnam may shortly initiate a program aimed at making gas exploration more attractive. Therefore, it can be expected that many gas discoveries will be made during the next decade.

At the same time the economics of small LNG liquefaction facilities is improving.

All such conditions could lead to a situation where Alaska may be delayed.

6. INCREASING PROFITABILITY

In order for the Alaska LNG project to take place the competitiveness and profitability of the project have to be increased. This can only be achieved on the basis of:

a) an active program on the part of the corporations in order to evaluate whether costs can be reduced, and

b) a cooperative approach between the State Government, the Federal Government and the local governments with respect to improving fiscal terms and reducing project risk.

Unless all four parties are willing to make a contribution to increasing the competitiveness and reducing the risk of the project, it would be difficult to reach the minimum objectives.

The increase in competitiveness should be primarily achieved by reducing the government take on the downstream portion of the project. By reducing the government take on the downstream, the netback value will be increased which in turn will lower the cost overrun risk and the price risk. This risk can be further reduced by reducing the upstream government take under conditions of low netback prices.

6.1 STATE AND FEDERAL INCENTIVES

The State and the Federal government could seek to improve the competitiveness of the project considerably by solving two important issues:

-- the slow rate of depreciation, and
— the high combined tax rate.

6.1.1 ACCELERATION OF DEPRECIATION

The depreciation should preferably be brought in line with worldwide conditions for LNG plants. This means that an accelerated depreciation of 20% straight line per year should be the target. The change in depreciation should be proposed in such a way that it does not result in impacts on other tax payers.

Additionally one should consider a property tax holiday of 10 years from the end of the ramp-up period. However, one might consider a compensation package for the municipalities for this benefit.

For instance, the compensation could be in the form of "free" natural gas delivered to the municipalities at the pipeline in exchange for the property tax holiday and in lieu of the payment of property tax. Also agreement would need to be reached on the detailed calculation methods of the property tax.

There would be ample justification for the proposed measures from the point of view of the local governments. The project would bring considerable employment and business opportunities and would provide low cost clean energy and a considerable future source of property tax income.

6.3 STATE INCENTIVES

6.3.1 RELIEF ON MINIMUM SEVERANCE TAX

The State could remove the minimum severance tax in order to enhance the ability for the sellers of the gas to negotiate the lowest possible minimum sales price in case of oil price declines. Asian buyers are very concerned about minimum sales prices.

6.3.2 ROYALTY AND SEVERANCE TAX RELIEF

The current 12.5% royalty and the 10% severance tax are front-end loaded The project risk could be reduced and the profitability under low netback conditions could be enhanced with a lower fiscal burden under these conditions. This relief is part of a more general restructuring of the royalty and severance tax to be described in the next chapter.

6.3.3 DETERMINATION OF NET BACK VALUE FOR ROYALTY AND SEVERANCE TAX PURPOSES

It can also be recommended to establish a more detailed and specific system on how the netback price for royalty and severance tax purposes would be calculated. The netback price should be based on the principle that each of the downstream components of the project should be a viable business by itself. A cost of service type rate of return should be included in the calculation of the cost of marine shipping, liquefaction, pipeline transport and conditioning for royalty net back value purposes.

The single new royalty could be made more progressive back-end loaded by:

-- removing the severance tax for gas,

-- introducing a higher royalty in combination with a higher royalty allowance, and

— by making this royalty time related.

7.2 CREATION OF PROGRESSIVITY AND BACK-END LOADING

Very important variables in the creation of economic rent are the CIF price of gas and the downstream costs. A high price and low downstream costs create automatically a large economic rent. It is in the interest of Alaska to capture a large share of the economic rent that might be generated.

The royalty could be made more sensitive to the netback value by increasing the current allowance of $ 0.18 per Mcf to, for instance, $ 0.60 per Mcf. The average project royalty could be increased at the same time to, for instance, 30%.

This average royalty could then be re-distributed over a time frame related to the project. The royalty could start at 5% during the construction and ramp-up phase and could go up to rather high levels of say 40 - 60% depending on the detailed provisions of the formula that is applied. Such a formula needs careful consideration.

The creation of a progressive and back-end loaded royalty system make the determination of the net-back value for royalty purposes an essential component of the overall fiscal system, as already discussed in section 6.3.3

Also it should be recognized that the royalty would apply under the umbrella of a specific agreement on the Phase I royalties only. The royalties applicable to a possible Phase II should be judged on the basis of the economic conditions existing at the time that the decision about Phase II is being made and should take into consideration the need for possible considerable incremental investments to put new gas fields on stream.

Finally, it should be noted that the specific royalty formula needs to be designed in the context of the total fiscal package and should therefore be based on the final form of agreements reached between the levels of government.

Also the distribution of risks and benefits of the State of Alaska is very different from the private investors. The State of Alaska will benefit from Phase II. The specific initial project investors might or might not.

Therefore, the State of Alaska could assume project risk by partially financing the project with long term loans.

The atractiveness of the project could increase if the State could use such tax supported financing and can assume project risk by lending under favorable conditions.

8.3 INFRASTRUCTURE DEVELOPMENT

Some governments in the world have promoted the LNG exports through very considerable direct infrastructure or project support. Qatar constructed an new $ 1 billion port. Indonesia assumes the construction and financing costs of the liquefaction plants and charges private investors for liquefaction on a cost basis.

The State of Alaska may be able to provide similar support to the project. This may be the case for improvements in the port in Valdez or similar infrastructural works.

8.4 FISCAL STABILITY

The ANS LNG project will not occur without a significant enhancement of the stability of the fiscal terms. The profitability of the project depends entirely on a comprehensive set of fiscal and financial measures. Without these measures the project is uneconomic. As a result, there has to be an acceptable degree of fiscal stability before investors can risk the investment in such a large project.

This fiscal stability does not exist at this time. The State of Alaska has the unilateral right to change taxes. This applies to severance taxes, property taxes and corporate income tax. All these taxes are major components of the fiscal structure.

Even if the current government would agree to a new fiscal package, the next government could change it. The State of Alaska could therefore take a number of measures that would help in establishing an environment of fiscal stability. Several measures are possible.

It seems that a reasonable middle ground could be the following:

-- the State Legislature could pass a law permitting the government to enter into fiscal agreements for specific projects for a specific time period, for instance, no longer than 25 years (5 years for development and 20 years production),

-- any such agreements would have to be specifically approved by the State Legislature,

-- if the fiscal system changes in the future, such changes would not be applicable to the project for which the agreement exists and such agreements would be "grandfathered" under any such new law changing the fiscal system,

-- it could be understood that the agreement could only be canceled or amended on the basis of a specific new law by the State Legislature.

This process does not provide for absolute fiscal stability, but it would come as close as one could reasonably hope for in the North American context. A formal agreement with the investors signed by the State and approved by the State Legislature would have a tremendous moral weight and it would be very damaging for the image of the State if the agreement would be unilaterally canceled or amended.

8.4.5 FINANCING PACKAGE

The long term State supported financing package may help to solidify the fiscal stability. The package may include certain conditions that would link the package to the fiscal stability. Since the State of Alaska would have guaranteed the financing package to the lenders, this would create considerable additional comfort on the part of the investors that the fiscal stability will "hold".

8.4.6 PARTICIPATION

The equity participation provisions could be part of the overall fiscal stability agreement.

For the $ 3.90 scenario the desirable target rate would still not be reached, which means that the Alaska LNG project still would not compare very well with other LNG projects around the world under this price scenario or higher price scenarios.

On the other hand, the project rates relatively better under lower price scenarios and would rate very high on a ROE basis. Also the minimum netback price of about $ 0.90 per Mcf would be far exceeded at the $ 3.90 CIF price level.

9.3 REDUCTION OF RISK

The proposed fiscal structure reduces cost overrun risk and price risk.

The State of Alaska could reduce project risk further through a detailed contractual arrangement with the producers, involving fiscal stability and a detailed definition of terms, including detailed calculation procedures for all fiscal components.

Based on such a package that involves considerable risk reduction companies may be prepared to consider a risk adjusted hurdle rate of 12%, based on CIF prices of $ 3.50 per MMBtu.

The combination of improved fiscal terms and risk reduction may result in an overall situation where the project would be considered profitable and attractive by the producers. From that point onwards it would be the actual development of LNG market conditions that would determine when the project could be launched in the 2005 - 2010 time period.

9.4 OTHER FACTORS

Apart from the three factors indicated above, further factors could help in bringing the project about.

A shorter ramp-up time of 4.5 or 5 years could add another 0.5% to the Project ROR. Based on the new fiscal package and the risk reduction agreement with the State of Alaska, it might be possible to convince buyers that a faster ramp up would be attractive.

FISCAL NOTE

STATE OF ALASKA
1997 LEGISLATIVE SESSION

BILL NO. HJR 35

Dept. Affected
BRU:

Components:
Serial #

Title: Encouraging Federal Legislation to improve federal fiscal terms for TAGS

Sponsor: House Special Comm. on Oil & Gas

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EXPENDITURES/REVENUES: (THOUSANDS OF DOLLARS)

OPERATING	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03
Personal Services	0.0	0.0	0.0	0.0	0.0	0.0
Travel	0.0	0.0	0.0	0.0	0.0	0 0
Contractual	0.0	0.0	0.0	0.0	0.0	0.0
Supplies	0.0	0.0	0.0	0.0	0.0	0.0
Equipment	0.0	0.0	0.0	0.0	0.0	0.0
Land & Structures	0.0	0.0	0.0	0.0	0.0	0.0
Grants, Claims	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0

CAPITAL	0.0	0.0	0.0	0.0	0.0	0.0

REVENUE	0.0	0.0	0.0	0.0	0.0	0.0

FUNDING: (THOUSANDS OF DOLLARS)

General Fund	0.0	0.0	0.0	0.0	0.0	0.0
Federal Fund	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

POSITIONS:

Full-Time	0	0	0	0	0	0
Part-Time	0	0	0	0	0	0
Temporary	0	0	0	0	0	0

ANALYSIS: (ATTACH A SEPARATE PAGE IF NECESSARY)
see attached analysis

Prepared by: Co-Chair Scott Ogan
House Resources Committee
Scott Ogan

Date: 4/13/97
Phone: 465-3715
Phone:

PAGE 1 OF 1

The following table represent the Federal and State undiscounted government take under the various options

GOVERNMENT TAKE FOR VARIOUS IMPROVEMENTS IN FISCAL TERMS								
	"No Financing"				"Financing"			
	$ 3.50		$ 3.90		$ 3.50		$ 3.90	
	State	Fed	State	Fed	State	Fed	State	Fed
	%	%	%	%	%	%	%	%
Alaska - $12 billion	**13.8**	**28.1**	**15.4**	**27.8**	**12.6**	**26.1**	**14.3**	**26.1**
20% Depreciation	15.7	27.7	16.5	27.5	14.7	25.5	16.1	25.5
+10% Tax Credit	15.6	27.3	17.0	27.1	15.6	25.1	17.0	25.1
+Reduction of PT	15.3	27.4	16.7	27.2	15.6	25.1	17.0	25.1

The following table provides the netback value (entrance conditioning plant) on the basis of sales value of the production (including the gas required for energy and boiloff). The netback value is expressed in $ per Mcf.

NET BACK VALUES (production) FOR VARIOUS IMPROVEMENTS IN FISCAL TERMS				
	No Financing		Financing	
	$ 3.50	$ 3.90	$ 3.50	$ 3.90
	$/Mcf	$/Mcf	$/Mcf	$/Mcf
Alaska - $12 billion	**$ 0.64**	**$1.04**	**$ 0.55**	**$ 0.95**
20% Depreciation	$ 0.81	$ 1.21	$ 0.84	$ 1.24
+ 10% Tax Credit	$ 0.93	$ 1.33	$ 1.00	$ 1.40
+ Reduction of PT	$ 1.03	$ 1.43	$ 1.15	$ 1.55

12.2 FEDERAL - STATE OF ALASKA PACKAGE

The Federal Government will have to make some contribution to the competitiveness of the project if the project is to succeed.

In approaching the Federal Government for support, it is probably most effective to request a small number of very specific items.

What is also important is that the requests for fiscal improvements should be reasonable and should not interfere with the taxation of other tax payers. Nor should the request for fiscal improvements easily lead to precedents in other corporate taxation areas.

HOUSE JOINT RESOLUTION NO. 35

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTIETH LEGISLATURE - FIRST SESSION

BY THE HOUSE SPECIAL COMMITTEE ON OIL AND GAS

Introduced: 4/10/97
Referred: Resources

A RESOLUTION

Encouraging federal legislation to improve federal fiscal terms for a trans-Alaska gas pipeline.

BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:

WHEREAS Alaska's North Slope, including the Prudhoe Bay and Point Thomson oil and gas fields, hold at least 35 trillion cubic feet of proven natural gas reserves, an amount sufficient to supply a large natural gas export project in the state; and

WHEREAS companies operating in the state, including permit holders, oil and gas leaseholders, and other parties, have indicated an interest in investing in a trans-Alaska gas pipeline if it is economically feasible; and

WHEREAS a study recently commissioned by the State of Alaska prepared by Dr. Pedro Van Meurs indicates that the project economics could be substantially improved through changes in federal tax laws related to this project; and

WHEREAS the United States Congress recently passed similar tax changes to facilitate development of frontier deep water oil and gas development in the Gulf of Mexico; and

WHEREAS Dr. Van Meurs' report estimated federal tax revenues under the current structure to be $26,000,000,000, none of which will be realized if the project is not completed; and

WHEREAS there would be substantial additional benefits to the United States from the project, including increased employment opportunities across the nation and an improved trade balance with Asian countries; and

WHEREAS liquefied natural gas projects proposed for other countries are competing to meet the Asian market demand for liquefied natural gas in the 2005 to 2010 market window and could displace the Alaska project;

BE IT RESOLVED that the Alaska State Legislature respectfully requests the United States Congress to enact tax legislation that would improve the economics and likelihood of an Alaska liquefied natural gas export project; and be it

FURTHER RESOLVED that the Alaska State Legislature respectfully requests the Governor to use his best efforts to support passage of this federal legislation.

COPIES of this resolution shall be sent to the Honorable Ted Stevens and the Honorable Frank Murkowski, U.S. Senators, and the Honorable Don Young, U.S. Representative, members of the Alaska delegation in Congress.

SUGGESTIONS FOR NEW TERMS FOR THE ALASKA NORTH SLOPE LNG PROJECT

EXECUTIVE SUMMARY

by

Dr. A. Pedro H. van Meurs
February 12, 1997

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SUGGESTIONS FOR NEW TERMS FOR THE ALASKA NORTH SLOPE LNG PROJECT

1. INTRODUCTION

The North Slope of Alaska contains natural gas reserves of about 35 trillion cubic feet. Most of these reserves are contained in the Prudhoe Bay field. One of the ways in which these reserves can be produced is through the export of the gas in the form of LNG (liquid natural gas).

A possible LNG project could be an important source of revenues for the State of Alaska and would create significant employment and business opportunities. It is therefore important for the State of Alaska to analyze the possible optimal fiscal conditions under which this project would become a reality.

The Revenue Department of the State of Alaska requested the consultant to provide a report on possible new fiscal and other terms for the Alaska North Slope LNG project. The study is based on a comparative analysis of international LNG terms and conditions. This executive summary reflects the main conclusions and recommendations of this analysis.

2. PROJECT DESCRIPTION

A possible initial LNG project could produce and export about 14.5 million tons of LNG per year. This level might be reached over a six year period increasing sales volumes by about 2.5 million tons per year. The project would use initially the gas reserves of the Prudhoe Bay field. A large conditioning plant, a large diameter gas pipeline and a liquefaction facility in Valdez would be required. A fleet of about 14 LNG tankers would ship high Btu gas to East Asian markets starting in the 2005 - 2010 period. This project configuration was used as the basis for the recommendations in this executive summary.

Alternative configurations of the project are also possible. A gas pipeline could be built to the northwestern Alaska coast and ice-breaking LNG tankers could be used for the gas export. The Point Thomson gas reserves could be used from the start of the project.

The ramp-up speed is an important economic variable in the project and could be faster than the 6 years assumed in the basic project configuration.

In the case of the Alaska North Slope LNG project the competitive conditions do not only apply to the profitability of the investment opportunities, but relate also to the market access of the gas. The fiscal system has to enable investors to conclude the necessary gas sales in the East Asian region.

One of the consequences is that the fiscal structure Alaska LNG project as a whole - the upstream and well as the downstream - has to be considered.

3.2.2 STRUCTURE OF THE GOVERNMENT TAKE

With respect to the structure of the government take there are two important issues, which are progressivity and back-end loading.

3.2.2.1 PROGRESSIVITY

A progressive fiscal system is a system whereby the government take is modest in case of conditions of low profitability and high in case of high profitability. A progressive fiscal system achieves the highest level of economic activity in conjunction with the highest level of economic rent extraction.

A regressive fiscal system is a system whereby the government take is high in case of conditions of low profitability and low in the case of high profitability. A regressive system results in a situation where marginal projects will not be undertaken and whereby the government is not earning the highest possible economic rent in case of high profitability.

The most efficient way to promote optimal economic activity with effective economic rent collection is therefore to adopt a progressive system.

It should be noted, however, that progressive systems have a drawback for governments. They result by their very nature in important swings in government revenues if there are important changes in prices or costs. In order to properly manage a progressive fiscal system a government has to have a "buffering" system in place, such as a special fund to which government contributes when prices are high and which the government could use in case prices are low.

At the same time it should also be noted that large corporations look for "upside" in an investment and a severe reduction of the upside would reduce the investors interest in the project.

4.1.1 UPSTREAM

4.1.1.1 BONUSES

Alaska employs a system of competitive bonus bidding for the allocation of acreage.

4.1.1.2 RENTALS

Surface rentals in the Prudhoe Bay area are $ 1 per acre.

4.1.1.3 ROYALTIES

Royalties for Prudhoe are 12.5% of the value at the lease boundary. A processing allowance of $ 0.18 per Mcf is permitted for gas as a deduction from this value. This allowance escalates with inflation.

4.1.1.4 SEVERANCE TAX

The severance tax rate for oil is 12.25% for the first 5 years and 15% thereafter and for gas it is 10%. The severance tax is calculated on the value at the lease boundary less royalties. For gas there is a processing allowance of $ 0.20 per Mcf (assumed pending draft regulations). Also there is minimum severance tax of $ 0.064 per Mcf regardless of the price.

The severance tax for oil and gas is reduced by the Economic Limit Factor (ELF). This factor varies between 0 and 1 and depends on the daily well production in the case of oil and gas and also total daily field production in the case of oil.

4.1.1.5 CORPORATE INCOME TAX

The federal corporate income tax rate is 35%. Losses can be carried forward and interest is a deductible expense. Depreciation for federal purposes varies from asset class to asset class and is based on the MACRS system. Typically, the conditioning plant would be depreciated over 8 years.

The Alaska corporate income tax rate is 9.4% applied on a unitary world-wide basis of income. The experience of Alaska is that Alaska only receives about half this amount as a result of the apportionment procedures. The Alaska corporate income tax is deductible for federal corporate income tax purposes, creating a total tax rate of 41.1%.

On average, the total Alaska fiscal system (Federal, State and local) is:

-- slightly regressive or slightly progressive on a total project basis depending on the economic conditions and the tax position of the investor, and

-- front-end loaded.

This means that the Alaska fiscal system is not optimal for an LNG project.

The rate of return to the investors is less than it needs to be. The rate of return is particularly negatively affected under marginal economic conditions. However, under high price scenarios, the total government take is less than it could be.

The current Alaska fiscal system could therefore be improved in order to make the LNG project more attractive by making the project more profitable and less risky. The system could also be improved by making it a more effective economic rent collector.

5. COMPARATIVE ECONOMICS

5.1 FINANCIAL EVALUATION CRITERIA

5.1.1 HURDLE RATE

Probably the most important yardstick for assessing the profitability of the Alaska project is the "hurdle rate".

The hurdle rate is the minimum cashflow rate of return that the project has to have in order to be considered economically attractive by the investors. Many companies determine the hurdle rate after all taxes and before financing. The hurdle rate can be determined on a current or constant dollar basis. The hurdle rate depends on many factors, such as the rate of return of other opportunities, the average cost of capital, the project risks and financing opportunities.

Hurdle rates are different from company to company because the factors that determine the hurdle rate are different for each company. This means that some companies may consider a project profitable while others may not. For large projects, companies may have different hurdle rates per project depending on the project risk.

This indicates that the competitive rate of return for LNG projects that are being launched at this moment is in the range of 13 - 17% for the price range of \$ 3.50 to \$ 3.90 per MMBtu CIF Korea or Japan on a total project basis.

5.1.1.2 COST OF CAPITAL

The hurdle rate has to be equal to or higher than the weighted average cost of capital after adjustment for risk. The weighted average cost of capital of a company is the after tax cost of all its capital sources in the form of debt and equity. For large oil corporations with a relatively modest debt, the current cost of capital can estimated in the range of 9% to 11%. It is not economic for a corporation to invest in a project if the project does not make at least a rate of return that is equal to the weighted average cost of capital after adjustment for risk.

Successful companies have projects with rates of return that are above the weighted average cost of capital.

5.1.1.3 ALASKA PROJECT RISK

The relative risks of the projects is also an important factor in deciding about the attractiveness of a project and in deciding about the hurdle rate for the project. It should be noted that relatively speaking the Alaska project cannot be considered a low risk project under current conditions. There is a great variety of project risks. The following table is a comparison between the Alaska project and the Ras Laffan project of the project risks involved:

RELATIVE PROJECT RISK ALASKA - RAS LAFFAN		
	Alaska	Ras Laffan
RISKS:		
Regional conflict risk	Very Low	Very High
General country risk	Low	Average
Gas reserve risk	Low	Very Low
Gas price risk	Aver - High	High
Regulatory/legal risk	High	Low
Risk of cost overruns	High	Low
Market access risk	High	Average
Fiscal stability risk	High	Low

5.1.1.4 FINANCING

With respect to the Alaska LNG project it is important to emphasize that the analysis of the project on a no-financing basis does not do the Alaska project justice. In the United States, interest is a tax deductible expense. Furthermore, the financial markets perceive North America as a low risk area in which a high leverage of the downstream operations is possible.

Finally, the incremental investments in the Alaska LNG project are primarily in downstream operations which are highly financeable.

The high degree of financeability of the downstream operations makes the incremental cost of capital less than the weighted average cost of capital of the corporation.

Given these considerations it is important to consider the comparative economics either on an after financing basis or provide some decrease in the hurdle rate in order to recognize these factors. The rate of return after financing would be the rate of return on equity ("Project ROE"). This means the rate of return on total capital less the debt.

5.1.1.5 TOTAL PROJECT VERSUS ITS COMPONENTS

The risk on the total project and its components are not necessarily the same. The downstream components could be constructed under relatively low risk contractual arrangements with the producers. The producers would run the risk of cost overruns, price declines and other risks.

Therefore, for the determination of the netback value and for royalty purposes one would use a rate of return that is lower than the total project rate of return and would represent the lower risk. Also the costs of capital for the downstream components is typically lower than for the upstream component. The rate of return would be a Cost of Service rate of return.

In order to assume all the project risks, the liquid penalty and earn a reasonable return on the project development investments, the producers will have to have a reasonable minimum netback value for the gas. It can be estimated that this value is about $ 0.98 per Mcf. If downstream operators would assume more risk, this value could be lower but in this case the cost of service of the downstream operations increases because of the need for a higher rate of return in order to assume this risk.

The rate of return is dependent on the ramp-up speed of the project. A unique feature of the Alaska project is that a long distance high cost gas pipeline is required. The quicker this line can be filled with production, the higher the rate of return will be. If the ramp-up would be 3 years, the ROR would be approximately 0.7% higher. Such a fast ramp up, however, is improbable due to market restrictions. Currently, the total Pacific LNG market is increasing by about 2.5 million tons per year and many projects compete in this market.

It therefore appears that the Alaska North Slope LNG project is not economic under current conditions, even if the costs could be dropped to $ 12 billion and the ramp-up speed could be increased.

However, improvements in the fiscal system together with a reduction of project risk could make the project attractive.

5.3 ALASKA PROJECT ON THE BASIS OF OTHER FISCAL SYSTEMS

5.3.1 OVERALL FISCAL BURDEN

The overall fiscal burden imposed by Alaska on a possible LNG project is tough in comparison with other LNG exporting countries.

The relative burden can be most accurately measured by applying the fiscal terms of other jurisdictions to Alaska North Slope economics.

In such a comparison the economics of Alaska, Canada and Australia are measured on a consolidated basis and the economics of the other LNG exporting countries is measured on a stand alone basis. The following table provides the comparative analysis of the ROR for two scenarios, $ 15 billion costs with a price of $ 3.50 and $ 13.5 billion costs with a price of $ 3.90:

This is a very strong indication that the Alaska fiscal terms are not competitive with the "outer circle-high cost" jurisdictions.

5.3.2 STRUCTURE OF THE GOVERNMENT TAKE

An important issue in international fiscal systems is the structure of the fiscal system. The structure of the fiscal system can be analyzed by reviewing the level of government take under various scenarios.

The government take is defined as the percentage that the government obtains of the economic rent. The government take is usually expressed as a percentage of the undiscounted rent, although economic rent is usually determined on a discounted basis.

The following table provides the undiscounted government take in percent for the two scenarios:

GOVERNMENT TAKE OF DIFFERENT FISCAL SYSTEMS BASED ON ALASKA ECONOMICS			
	Costs/price:	15B- $ 3.50	13.5B- $ 3.90
	Project:		
ALASKA	North Slope	40.4%	41.7%
INNER CIRCLE-LOW COST:			
Brunei	Lumut	46.6%	49.8%
Indonesia	Arun	57.5%	59.9%
Malaysia	Bintulu I ,II	61.2%	66.4%
Malaysia	Bintulu III	61.2%	66.4%
Vietnam	Offshore	38.2%	47.9%
OUTER CIRCLE-HIGH COST:			
Abu Dhabi	Das Island	44.4%	45.6%
Australia	All projects	33.7%	36.1%
Canada	PACRIM	35.2%	39.9%
Indonesia	Irian Jaya	48.7%	50.7%
Indonesia	Natuna	25.6%	25.9%
Oman	Shell	21.6%	19.4%
PNG	Hides	27.3%	28.1%
Qatar	Qatargas	33.1%	30.8%
Qatar	Ras Laffan	34.4%	33.7%
Russia	Sakhalin II	37.5%	38.2%
Yemen	Hunt	35.3%	49.5%

This means that the "outer circle-high cost" countries compe e by introducing one or more of the following fiscal concepts in their fiscal system:

– a lower government take
-- a progressive government take, making the $ 3.50 case more attractive,
– a back-end loaded government take, or
- investment "subsidies".

Alaska employs none of these features and it is therefore that the Alaskan terms are the least attractive for investors among the "outer circle-high cost" jurisdictions.

In addition to the basic government take, many jurisdictions employ direct government equity participation in the project. This is in particular the case for Qatar, Abu Dhabi, Oman, Yemen, Brunei and PNG. This increases the government take on a "Participation" basis substantially. However, these governments share in this case the commercial risks with the investors.

5.4 COMPETITIVE POSITION RELATIVE TO OTHER PROJECTS

5.4.1 ALASKA ON THE TIME LINE

The projects in Qatar (Ras Laffan and Qatargas), Oman and the NW Shelf expansion project all are ahead on the time line relative to Alaska. The Qatargas project has already started. Oman and Ras Laffan have already specific sales contracts.

The total production capacity of the four projects together is 23.4 million tons of LNG per year. As indicated, the projects also have a Project ROR which are more attractive than the current Alaska project. It is unlikely that the Alaska North Slope project could be launched ahead of these projects.

The Alaska project would therefore primarily compete with a second tier of proj_cts.

5.4.2 COMPETITION WITH RESPECT TO SECOND TIER PROJECTS

The economic information on most of these projects is still rather limited. Project ROR figures for these projects are there re only indicative. Only very generalized economic analysis can be done with a wide range of error.

5.5 *EFFECT OF TIME ON THE PROJECT*

The effects of time on the Alaska LNG project are important.

As indicated earlier, the ramp-up speed could add about 0.7% to the Project ROR if the ramp up time could be reduced from 6 to 3 years. It is likely that the ramp up time could be reduced somewhat over time.

By the year 2010 the Pacific markets may increase at a rate of 3 million or more per year instead of 2.5 million tons per year. This might result in a situation where the ramp up time could be reduced to 5 years or 4.5 years. This would increase the rate of return and make the market access risk less.

At the same time the liquid loss which is estimated at 384 million barrels if the project starts in 2005 might be reduced to less than half this amount by the year 2010. This would add about 0.2% to the Project ROR.

A general benefit to Alaskan's might be that over time the CIF prices for gas in East Asia may increase in real terms, creating a considerably higher economic rent which in turn would result in much higher government revenues.

The main drawback of delays in the Alaska project is that the project may be "nibbled to death" by small projects coming in ahead of the Alaska project. Petroleum exploration in Asia used to be primarily for oil. Gas was considered a by-product. However, the strongly emerging gas markets in Asia have now created a situation where petroleum companies are now exploraing for gas.

Exploration in Thailand, Pakistan and China is in many cases aimed at discovering gas. Vietnam may shortly initiate a program aimed at making gas exploration more attractive. Therefore, it can be expected that many gas discoveries will be made during the next decade.

At the same time the economics of small LNG liquefaction facilities is improving.

All such conditions could lead to a situation where Alaska may be delayed.

6. INCREASING PROFITABILITY

In order for the Alaska LNG project to take place the competitiveness and profitability of the project have to be increased. This can only be achieved on the basis of:

a) an active program on the part of the corporations in order to evaluate whether costs can be reduced, and

b) a cooperative approach between the State Government, the Federal Government and the local governments with respect to improving fiscal terms and reducing project risk.

Unless all four parties are willing to make a contribution to increasing the competitiveness and reducing the risk of the project, it would be difficult to reach the minimum objectives.

The increase in competitiveness should be primarily achieved by reducing the government take on the downstream portion of the project. By reducing the government take on the downstream, the netback value will be increased which in turn will lower the cost overrun risk and the price risk. This risk can be further reduced by reducing the upstream government take under conditions of low netback prices.

6.1 STATE AND FEDERAL INCENTIVES

The State and the Federal government could seek to improve the competitiveness of the project considerably by solving two important issues:

- the slow rate of depreciation, and
- the high combined tax rate.

6.1.1 ACCELERATION OF DEPRECIATION

The depreciation should preferably be brought in line with worldwide conditions for LNG plants. This means that an accelerated depreciation of 20% straight line per year should be the target. The change in depreciation should be proposed in such a way that it does not result in impacts on other tax payers.

Additionally one should consider a property tax holiday of 10 years from the end of the ramp-up period. However, one might consider a compensation package for the municipalities for this benefit.

For instance, the compensation could be in the form of "free" natural gas delivered to the municipalities at the pipeline in exchange for the property tax holiday and in lieu of the payment of property tax. Also agreement would need to be reached on the detailed calculation methods of the property tax.

There would be ample justification for the proposed measures from the point of view of the local governments. The project would bring considerable employment and business opportunities and would provide low cost clean energy and a considerable future source of property tax income.

6.3 STATE INCENTIVES

6.3.1 RELIEF ON MINIMUM SEVERANCE TAX

The State could remove the minimum severance tax in order to enhance the ability for the sellers of the gas to negotiate the lowest possible minimum sales price in case of oil price declines. Asian buyers are very concerned about minimum sales prices.

6.3.2 ROYALTY AND SEVERANCE TAX RELIEF

The current 12.5% royalty and the 10% severance tax are front-end loaded The project risk could be reduced and the profitability under low netback conditions could be enhanced with a lower fiscal burden under these conditions. This relief is part of a more general restructuring of the royalty and severance tax to be described in the next chapter.

6.3.3 DETERMINATION OF NET BACK VALUE FOR ROYALTY AND SEVERANCE TAX PURPOSES

It can also be recommended to establish a more detailed and specific system on how the netback price for royalty and severance tax purposes would be calculated. The netback price should be based on the principle that each of the downstream components of the project should be a viable business by itself. A cost of service type rate of return should be included in the calculation of the cost of marine shipping, liquefaction, pipeline transport and conditioning for royalty net back value purposes.

The single new royalty could be made more progressive back-end loaded by:

-- removing the severance tax for gas,

-- introducing a higher royalty in combination with a higher royalty allowance, and

-- by making this royalty time related.

7.2 CREATION OF PROGRESSIVITY AND BACK-END LOADING

Very important variables in the creation of economic rent are the CIF price of gas and the downstream costs. A high price and low downstream costs create automatically a large economic rent. It is in the interest of Alaska to capture a large share of the economic rent that might be generated.

The royalty could be made more sensitive to the netback value by increasing the current allowance of $ 0.18 per Mcf to, for instance, $ 0.60 per Mcf. The average project royalty could be increased at the same time to, for instance, 30%.

This average royalty could then be re-distributed over a time frame related to the project. The royalty could start at 5% during the construction and ramp-up phase and could go up to rather high levels of say 40 - 60% depending on the detailed provisions of the formula that is applied. Such a formula needs careful consideration.

The creation of a progressive and back-end loaded royalty system make the determination of the net-back value for royalty purposes an essential component of the overall fiscal system, as already discussed in section 6.3.3

Also it should be recognized that the royalty would apply under the umbrella of a specific agreement on the Phase I royalties only. The royalties applicable to a possible Phase II should be judged on the basis of the economic conditions existing at the time that the decision about Phase II is being made and should take into consideration the need for possible considerable incremental investments to put new gas fields on stream.

Finally, it should be noted that the specific royalty formula needs to be designed in the context of the total fiscal package and should therefore be based on the final form of agreements reached between the levels of government.

Also the distribution of risks and benefits of the State of Alaska is very different from the private investors. The State of Alaska will benefit from Phase II. The specific initial project investors might or might not.

Therefore, the State of Alaska could assume project risk by partially financing the project with long term loans.

The atractiveness of the project could increase if the State could use such tax supported financing and can assume project risk by lending under favorable conditions.

8.3 INFRASTRUCTURE DEVELOPMENT

Some governments in the world have promoted the LNG exports through very considerable direct infrastructure or project support. Qatar constructed an new $ 1 billion port. Indonesia assumes the construction and financing costs of the liquefaction plants and charges private investors for liquefaction on a cost basis.

The State of Alaska may be able to provide similar support to the project. This may be the case for improvements in the port in Valdez or similar infrastructural works.

8.4 FISCAL STABILITY

The ANS LNG project will not occur without a significant enhancement of the stability of the fiscal terms. The profitability of the project depends entirely on a comprehensive set of fiscal and financial measures. Without these measures the project is uneconomic. As a result, there has to be an acceptable degree of fiscal stability before investors can risk the investment in such a large project.

This fiscal stability does not exist at this time. The State of Alaska has the unilateral right to change taxes. This applies to severance taxes, property taxes and corporate income tax. All these taxes are major components of the fiscal structure.

Even if the current government would agree to a new fiscal package, the next government could change it. The State of Alaska could therefore take a number of measures that would help in establishing an environment of fiscal stability. Several measures are possible.

It seems that a reasonable middle ground could be the following:

-- the State Legislature could pass a law permitting the government to enter into fiscal agreements for specific projects for a specific time period, for instance, no longer than 25 years (5 years for development and 20 years production),

-- any such agreements would have to be specifically approved by the State Legislature,

— if the fiscal system changes in the future, such changes would not be applicable to the project for which the agreement exists and such agreements would be "grandfathered" under any such new law changing the fiscal system,

-- it could be understood that the agreement could only be canceled or amended on the basis of a specific new law by the State Legislature.

This process does not provide for absolute fiscal stability, but it would come as close as one could reasonably hope for in the North American context. A formal agreement with the investors signed by the State and approved by the State Legislature would have a tremendous moral weight and it would be very damaging for the image of the State if the agreement would be unilaterally canceled or amended.

8.4.5 FINANCING PACKAGE

The long term State supported financing package may help to solidify the fiscal stability. The package may include certain conditions that would link the package to the fiscal stability. Since the State of Alaska would have guaranteed the financing package to the lenders, this would create considerable additional comfort on the part of the investors that the fiscal stability will "hold".

8.4.6 PARTICIPATION

The equity participation provisions could be part of the overall fiscal stability agreement.

For the $ 3.90 scenario the desirable target rate would still not be reached, which means that the Alaska LNG project still would not compare very well with other LNG projects around the world under this price scenario or higher price scenarios.

On the other hand, the project rates relatively better under lower price scenarios and would rate very high on a ROE basis. Also the minimum netback price of about $ 0.90 per Mcf would be far exceeded at the $ 3.90 CIF price level.

9.3 REDUCTION OF RISK

The proposed fiscal structure reduces cost overrun risk and price risk.

The State of Alaska could reduce project risk further through a detailed contractual arrangement with the producers, involving fiscal stability and a detailed definition of terms, including detailed calculation procedures for all fiscal components.

Based on such a package that involves considerable risk reduction companies may be prepared to consider a risk adjusted hurdle rate of 12%, based on CIF prices of $ 3.50 per MMBtu.

The combination of improved fiscal terms and risk reduction may result in an overall situation where the project would be considered profitable and attractive by the producers. From that point onwards it would be the actual development of LNG market conditions that would determine when the project could be launched in the 2005 - 2010 time period.

9.4 OTHER FACTORS

Apart from the three factors indicated above, further factors could help in bringing the project about.

A shorter ramp-up time of 4.5 or 5 years could add another 0.5% to the Project ROR. Based on the new fiscal package and the risk reduction agreement with the State of Alaska, it might be possible to convince buyers that a faster ramp up would be attractive.