Alaska Gas Pipeline
Construction Cost Risks
Anchorage June 16/17, 2004

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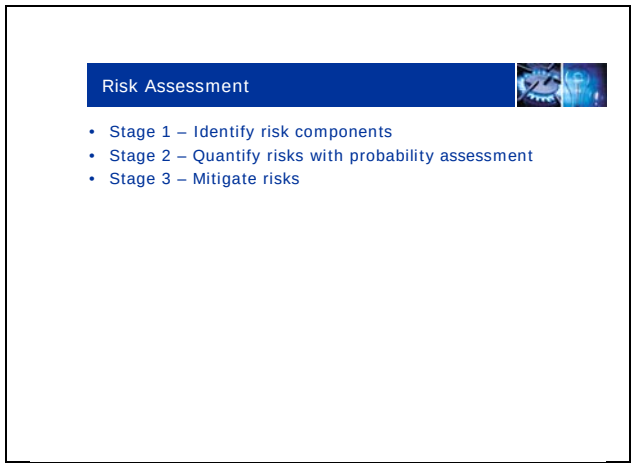
The Alaska gas pipeline project will be a huge undertaking requiring the skills and initiative of two nations to bring to a successful in-service. The sheer magnitude of the project and its risks means that no single group can assume the entire project risk. Like all large pipeline projects, the Alaska project faces a wide variety of development and operating risks, including natural gas commodity prices, gas reserves, customer credit and capital costs. Given its scale, the Alaska project has the potential to strain the world supply of steel pipe, other pipeline materials and construction labour, particularly if the project is constructed all the way to Chicago. So, an assessment of capital costs risk is an appropriate subject for review in this legislative proceeding.

The question posed by the Committee's agenda seems to suggest that capital cost overruns on the Alaska project are inevitable and that the only way to deal with those overruns is to increase the tariff. TransCanada does not agree with these assumptions. First, despite the magnitude of the Alaska project, it is not a foregone conclusion that there will be cost overruns. Second, even if there are cost overruns, such costs do not necessarily have to increase the tariff.

BACKGROUND

TransCanada is a longstanding developer and operator of large-scale natural gas transmission systems. We undertake a systematic process to address major risks on our pipeline projects. Firstly, in stage 1, we identify the components of each particular risk. In stage 2, we quantify the risks using probability assessment. Finally, in stage 3 we attempt to mitigate the risks and assign them to the parties most capable of managing or bearing that risk. I will focus my comments on construction cost risks today.

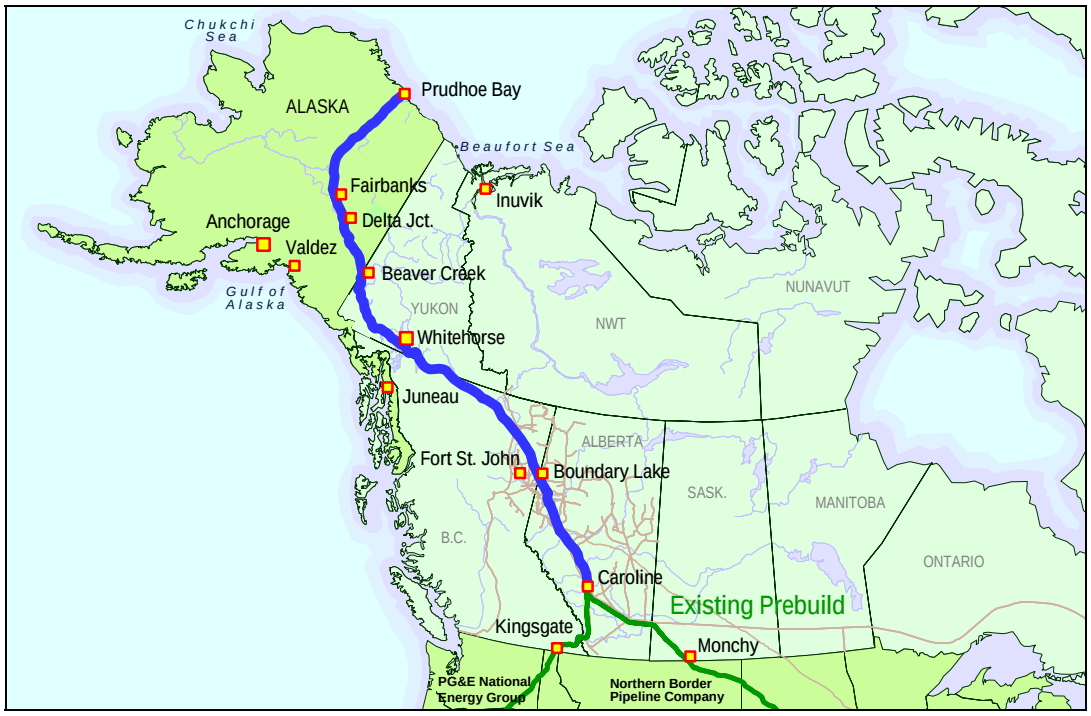


In stage 1, although there are a multitude of small risks that will always occur on major construction projects, the principal capital cost risks for the Alaska gas pipeline are project delay and cost overruns. Under the category of project delay, subcomponents include legislative or regulatory delay, environmental delays, competition for resources, and weather. In the cost overrun category, there are two broad subcomponents, labour and materials (including steel, compressors, valves, etc.). I will speak to how TransCanada proposes to address each of these categories later in my testimony.

In stage 2, TransCanada utilizes its 50 years of experience and expertise in the high-pressure natural gas pipeline business to estimate a range of values for each quantifiable variable or capital cost line item. Expert opinions from internal and external sources such as steel companies, contractors, construction companies, etc. are solicited and compared with TransCanada in-house database on actual results for other major construction projects in North America and internationally. Our engineering teams assess the risk distribution profile for each variable and determine a probability assessment of the outcome. We then use computer model simulations to determine P(10), P(50) and P(90) and expected value of the quantifiable risks. Then using a TransCanada economic model, we include these multiple uncertain variables, each with its own range of values and probability profile, to determine stakeholders' risks for overall capital costs.

In stage 3, we attempt to mitigate and /or assign project risks to the appropriate stakeholders. I will spend the majority of the remainder of my remarks on this section as it is the most complex and important part of the process. There are a number of ways to mitigate the project delay and capital cost overrun risks and to assign the remaining risks to stakeholders. TransCanada believes the Alaska gas pipeline can proceed now, if project stakeholders are ready to restructure the project by limiting the project to the frontier pipeline, using existing facilities and legislation where available, better matching of risks and rewards and engaging credible project proponents to construct the pipeline and manage the risks.

Proposed Pipeline System



MITIGATION OF PROJECT RISKS

There are a number of factors, applicable to all large scale pipeline projects, that can be used to control capital cost overruns on the Alaska project. TransCanada conducts detailed engineering studies including the use of contingencies in our cost estimations. TransCanada's normal practice is to seek firm price commitments from pipe mills and contractors after completing proper planning and logistic arrangements. Project labour agreements with contractors are sought to ensure construction is not disrupted.

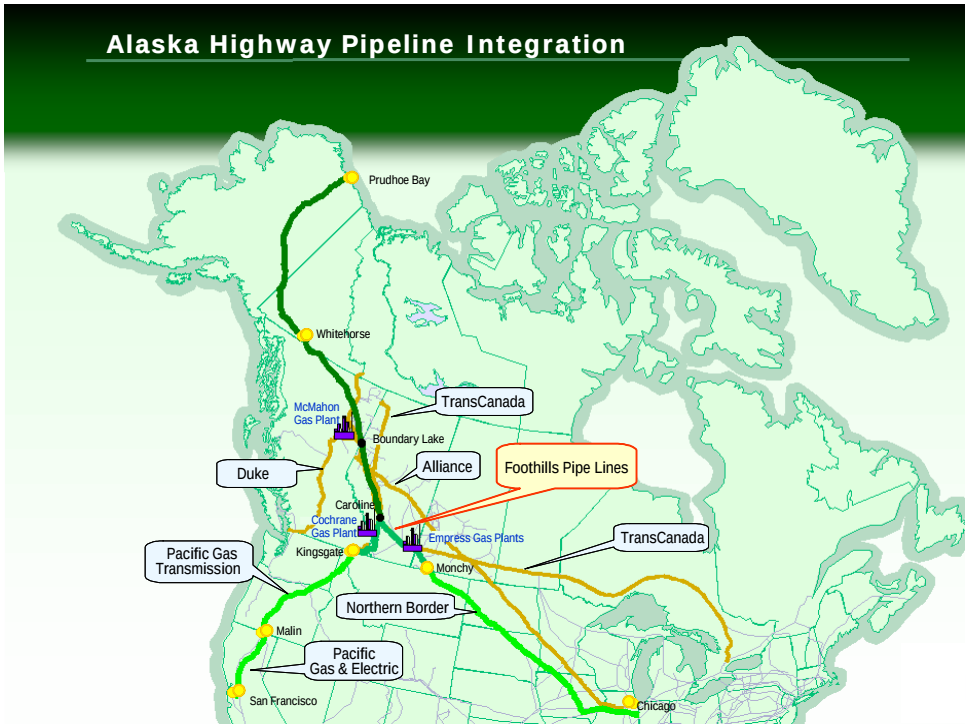
The route selection along the Alaska Highway provides all-weather access to work sites, winter and summer, to facilitate year-around construction, all subject to environmental windows. The availability of an all-weather road will reduce construction time and assist in logistics for the project.

In addition to these factors, there are several specific steps that TransCanada recommends be taken to mitigate the construction cost risks of the Alaska project.

Reducing the Scale of the Project

Limiting the project to the frontier pipeline would be a significant step to controlling construction costs overrun risks by reducing the scale of the project. Constructing a new pipeline from Prudhoe Bay to Alberta for approximately US$12-13 billion, connecting to an extension of the Prebuild and using spare capacity on existing infrastructure would

diversify pipe and labour requirements, allow for a staged planning process and provide a broader selection of suppliers to the construction project. TransCanada would propose to retain the pipeline economies of scale by constructing a 4.5 bcf/d pipeline designed for cost effective expansion. We would, of course, be prepared to construct a different pipeline design should customer needs change.



Use of Existing Infrastructure

Once the new pipeline reaches Alberta, it should connect to existing Alberta-to-market pipeline infrastructure, supplementing when and if necessary. The existing Alaska Highway Prebuild facilities have a capacity of 3.3 bcf/d to markets east and west of the Rockies. The current total export capacity of pipelines from Alberta is approximately 15 bcf/d. Significant spare capacity is available today and is expected to be available at that level or higher when the Alaska project is in-service. Spare capacity on facilities to remove natural gas liquids is also available within Alberta. Minimizing downstream new construction from Alberta by integrating with existing infrastructure will reduce the competition for resources thereby reducing capital cost overrun risk for the project.
In addition, the tariff for Alaska gas on the existing infrastructure will be lower than it would be on a newly constructed pipeline. For these reasons, TransCanada believes that Alaskans and Canadians can achieve a win-win solution by utilizing that spare capacity and constructing only the necessary facilities downstream of Alberta.

Use of Established and Tested Regulatory Framework

TransCanada also firmly believes that with a construction project of this scale and risk level, it is important to act consistently with existing legislation and treaties. The use of existing legislation provides a significant time advantage and assurance of approvals versus new contested proceedings. TransCanada's proposed in-service date of 2012, if a commercial deal is struck by 2005, is evidence of the efficiency of using existing legislation and certificates.

Canada and the United States signed a Treaty some 25 years ago setting out the principles for the transportation of Alaskan gas from Prudhoe Bay through Canada to the Lower 48. This agreement established the rights and benefits for each nation from this project. The Treaty is a fundamental foundation for the project. Subsequent to the signing of this agreement, the United States and Canada each passed legislation to expedite the project, and create a single window regulatory structure on both sides of the border. They also granted certain corporations the right to construct the pipeline in Canada and the U.S. The Canadian legislation is the Northern Pipeline Act (NPA) which granted Foothills Pipe Lines Ltd., a TransCanada subsidiary, the right to construct the Canadian section of the pipeline. Those certificates are valid and are in full effect today. Foothills utilized these certificates to construct the Prebuild sections of the Alaskan project in 1981/82 and has relied upon the NPA to expand the Prebuild five times to transport western Canadian gas in anticipation of the Alaskan project.

The United States Government passed the Alaska Natural Gas Transportation Act (ANGTA) to facilitate the construction of the Alaska Highway Pipeline in the United States. TransCanada and its subsidiaries hold the ANGTA certificates to construct the Alaskan section of the pipeline. In recent years, the ANS Producers have sought enabling legislation in the U.S. Congress as an alternative to the use of ANGTA. TransCanada believes that if enabling legislation is passed in the United States, then either ANGTA or enabling legislation can be utilized for the Alaskan section of the project.

It will also be important to leverage the use of existing rights of way to expedite the project and avoid cost overruns and project delay. TransCanada and its subsidiaries were granted the U.S. Federal right of way in Alaska many years ago and these remain valid today. On June 1, we reactivated our pending application for a right of way on State lands within Alaska. The State has commenced re-processing of our right of way application and we will continue to diligently pursue this right of way to create another valuable asset to advance an Alaska gas pipeline. TransCanada has indicated that is prepared to convey the State right of way to another party subject to that party successfully commercializing the Alaskan section of the project and that party interconnecting with Foothills at the Alaska/Yukon border. Foothills has held a valid right of way through the Yukon for 20 years. Seeking new rights of way in the U.S. and Canada can be a time-consuming and costly process and can increase the risk of capital cost overruns.

TransCanada has had a longstanding relationship with the First Nations in Canada along the project right of way. The regulatory proceedings that led to Foothills being granted its certificates from the Government of Canada committed Foothills to provide training, employment and business opportunities to First Nations. We have communicated the long-term project benefits to communities along the pipeline and we will continue to conduct community consultations. We have commenced signing protocols with First Nations, including negotiations on participation agreements with the Kaska, one of the First Nations in the Yukon and north B.C. TransCanada will negotiate with other First Nations when they are ready to proceed.

Use of Advanced Technology

For the Alaska gas pipeline project, TransCanada has selected a pipe platform of 48" and 2500 psig to transport an initial volume of 4.5 bcf/d with an inexpensive expansion up to approximately 6 bcf/d. This pipe platform is optimal for these volumes and uses a pipe size that TransCanada has years of experience with and pipe strength of X80. TransCanada first installed X80 pipe on its system in 1994 and has since installed several hundred miles of large-diameter X80 pipe from multiple steel suppliers. TransCanada is the only pipeline company in North America that uses X80 for large natural gas transmission projects.

We have recently installed the world's first X100 linepipe (next generation of high-strength steel) in 2002 with a second installation in 2004. In early 2004, we also installed a section of X120 pipe in collaboration with ExxonMobil. TransCanada has led the development and installation of high-strength steel and is optimistic that X100 pipe may be utilized for the Alaska gas pipeline in order to lower steel and construction costs.

TransCanada has also led the advancement of large compressor installations. We have installed a 33 MW compressor in 2003 on our system in Alberta to test the size compressors needed for the Alaska Highway gas pipeline. This size compressor will lower the overall cost of the project and reduce the number of compressor stations, thereby reducing the environmental impact of the project.

TransCanada firmly believes in testing all the major components to be installed on a project of this scale before commencing construction. We are a world leader in both pipe strength and compressor technology construction and operation. We also have made significant strides with partners in advancing welding and trenching technology as well as testing pipe strength, fracture arrest, etc.

Reliance on an Experienced and Credible Developer

To construct a project of this complexity and scale, it is important that credible project proponents lead the construction and operation of the pipeline. TransCanada believes it has an unparalleled record in constructing and operating high—pressure, large diameter natural gas pipelines in cold climates.

TransCanada is a successful developer of mega-projects, world class in both scale and experience. This is well-illustrated by our massive system expansion projects of the 1990s. Our project teams directly managed large-scale Canadian facility expansion programs with costs totaling approximately C$14 billion. These capital programs included nearly 11,000 km (7,000 miles) of large-diameter pipe (30" to 48"), 2,361 megawatts of compression, and 376 custody transfer meter stations. The work stretched across the continent. The largest single project was the C$1.8 billion Iroquois project, carried out in the early 1990s. It included 1,200 km of pipeline loop and 17 MW of compression power.

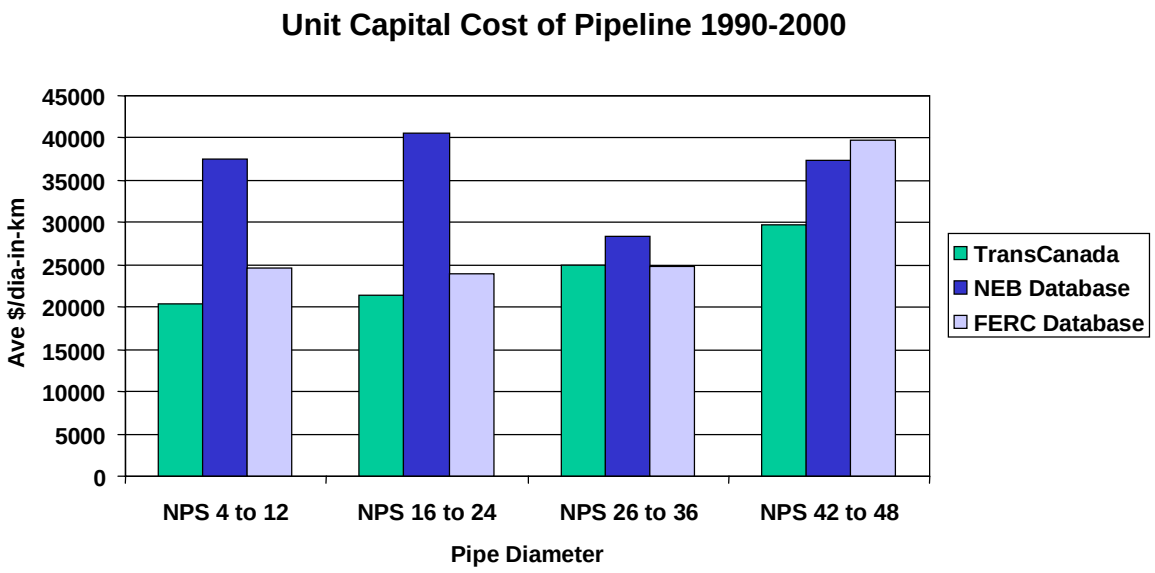
Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Total
Capital Expenditures Pipelines (C$million)	1,193	1,947	1,814	1,341	1,291	1,038	891	1,466	1,700	982	309	$13,973M
Pipeline Additions (km)	1,281	1,600	1,436	1,039	1,653	1,392	612	749	594	281	120	10,756km
Compression Additions (MW)	275	166	397	197	214	186	98	383	258	177	12	2,361MW

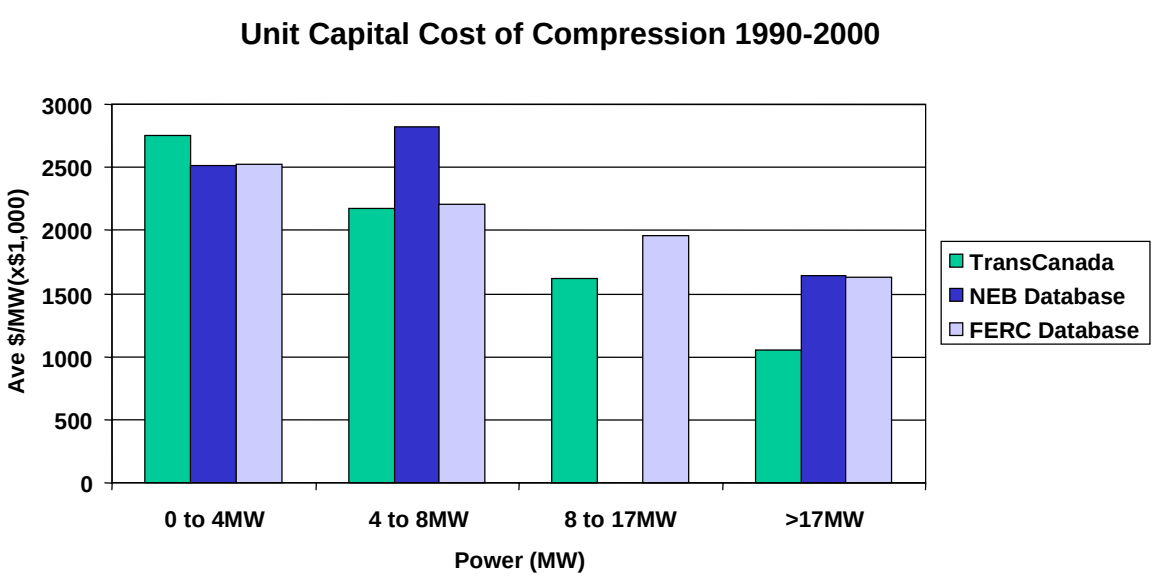
We have designed, constructed and operated pipelines in virtually every type of topography of the world. Through almost 50 years of domestic experience and approximately 20 years of international experience, we have succeeded in the discontinuous permafrost of northern Alberta, the jungles of Malaysia, the prairies of southern Saskatchewan, the mountains of Chile, and the muskeg and bedrock of northern Ontario.

We operate one of the world's largest fleets of gas turbine-powered natural gas compressors. Over 90% of the total compression power on TransCanada's system is produced from 222 gas turbine drivers, ranging in power up to 32 MW, with fuel efficiencies up to 40%. In addition, at certain sites, we operate a number of electric and reciprocating compressor drivers.

Aero derivative and light-industrial-type gas turbine units are the current turbo-compressor standard at TransCanada. This type of unit allows for minimal outages for heavy maintenance or unscheduled repairs, due to their modular design and the resultant ability to change out defective modules at site. Availability rates of over 96% are typically achieved on the TransCanada fleet.

The results from a 2001 benchmark study confirm that TransCanada has been, and continues to be, the lowest cost provider of safe and reliable natural gas transmission facilities. Out of more than 1,000 of the top quartile (lowest cost) projects in NEB and FERC databases, TransCanada's total installed capital costs were lower than those of any of the competitors.





In addition to installing these facilities at the absolute lowest cost, TransCanada's overall project development efforts have been consistently on budget and on schedule. During the 1990s, our C$14 billion capital program was delivered within 0.6 per cent of the budgeted amount. Our projects were ready for service generally on or before originally scheduled dates and in no case did we experience substantial schedule setbacks. In a world where major project overruns are not uncommon, we are proud of our track record of tightly controlling schedule, budget and risk on all of our major projects. Our success can be attributed to our extensive project management experience, our ability to develop effective relationships with key stakeholders and our implementation of leading-edge pipeline technologies such as high-strength steels and mechanized welding.

ASSIGNMENT OF CAPITAL RISKS

Once the mitigation initiatives are implemented, there will remain residual capital cost overrun risks despite the best efforts of experienced pipeline companies, construction companies, regulators, shippers and governments. However, these risks do not necessarily result in higher tariffs and lower netbacks to the shippers or gas or royalty owners. The original Alaska Highway gas pipeline contemplated capital cost risk sharing by the pipeline owners. TransCanada is prepared to share that risk with other project stakeholders. We believe it is important that other project stakeholders and beneficiaries including governments share in capital cost and overrun risks to ensure an alignment of interests and to minimize the risks of project delay.

Thank you for this opportunity to testify at this proceeding today and I would be pleased to respond to any questions that you may have on this topic.