The Future of a Natural Gas Pipeline Regulation in Canada

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1. Introduction

Thank you very much for inviting me here today to speak to you about the future of natural gas pipeline regulation in Canada. Only a few short years ago, this topic was arguably of much lesser interest than today.

If I were to be standing here 2, 3 or 4 years ago, I would probably be talking about how successful “light-handed” regulation had been. Almost all the major gas pipelines in Canada had negotiated multi-year settlements with their shippers under which pipeline rates were determined. In 1995, the NEB adopted its automatic adjustment mechanism for determining the appropriate return on equity for all the major natural gas pipelines. This generic formula, which is now in its sixth year, helped avoid the need for costly annual rate hearings.

The NEB’s regulatory philosophy for the last decade or so has been to “let markets work wherever possible”. Although the Board has always stressed that it has two doors -- negotiated settlements or public hearings -- the Board was clearly pleased that so many contentious issues could be settled by negotiations between market participants, rather than through the hearing room. The perceived benefits of negotiated settlements included reductions in hearing costs, better relations between pipeline companies and their customers, and better incentives to pipeline companies to reduce costs and improve services to their customers.

However, the natural gas pipeline landscape has changed quickly and dramatically in the last year or so. It is expected that the Alliance pipeline will be entering into its official start-up as of the end of this month. The combination of Alliance and the new Vector pipeline will allow western Canadian gas producers to deliver natural gas to Ontario without using TransCanada’s facilities. The Southern Crossing Pipeline project, which will be soon starting up in B.C., will similarly allow B.C. Gas and other buyers in the lower mainland area to purchase gas from Alberta producers and largely by-pass the Westcoast system. There are also a number of pipelines that have been constructed in Alberta that by-pass the old NOVA system.

In each of these cases, the introduction of alternative transportation routes has increased choices to gas shippers, but is posing serious challenges for the “incumbent” pipelines. As shippers switch to the new systems, the old systems are faced with decontracting. If they stick with a traditional cost-of-service approach to determining their rates, their tolls will rise, thereby further hurting their competitiveness. They likely believe that their business risk is increasing and that there is a need to revisit the manner in which their return on equity and deemed equity is determined, and
that there should be a re-examination of the depreciation rates they are accorded. In addition, they likely believe that they require new flexibility in setting their pricing and services offerings to allow them to effectively compete.

These issues are extremely difficult to resolve because they annually involve hundreds of millions of dollars in cost and revenue flows to shippers and the pipelines. It is an open secret that it has been difficult for the parties to negotiate settlements to these issues and, as I speak to you today, the NEB is likely to soon have to deal with a major filing by TransCanada. If parties do not arrive at a negotiated settlement, either prior to or after the filing, it is likely that a very lengthy and contentious hearing will ensue.

So, what happened? Has regulation gone wrong? Or are these just some of the “transition pains” that we must deal with as the industry matures?

Today, I will first review the objectives of the NEB in regulating natural gas pipelines; next, I will discuss the evolution of the industry and the regulatory models that apply to the changing industry structure; and, finally, I will close by outlining my views on the future direction of regulation of this industry.

2. NEB Regulatory Goals

The NEB has established for itself four Corporate Goals, the third of which is that, as a result of the Board’s regulatory approaches and decisions, Canadians derive the benefits of economic efficiency.1

What does this mean with respect to regulation of long-distance gas transmission pipelines? In a sentence, it means that the Board wants to promote the development of an efficient natural gas transmission system that meets shippers’ needs and benefits gas users.

More specifically, it means that: to the extent possible, prices reflect the competitive market value of services; a mix of service options is provided that meets shippers’ needs; and that adequate pipeline capacity is in place over time. In addition to these “pure” efficiency objectives, the Board also strives to ensure that pipeline customers are treated fairly (no undue discrimination) and that service providers have a fair opportunity to recover their invested capital.

I’d also like to note that there are links between the efficiency and fairness objectives. For example, if there is to be adequate pipeline capacity to meet the needs of shippers, the pipeline industry must be in a reasonably healthy state in order to raise the capital required for expansions.

In the context of any specific application, the Board must balance the efficiency objectives against the fairness objectives in arriving at a decision. Thus, although the objective of promoting

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1 The four goals of the NEB are:
   1. NEB regulated facilities are safe and perceived to be safe.
   2. NEB-regulated facilities are built and operated in a manner that protects the environment and respects individuals’ rights
   3. Canadians derive the benefits of economic efficiency.
   4. The NEB meets the evolving needs of the public to engage in NEB matters.
economic efficiency provides general guidance, the Board’s decisions in any specific case obviously will be strongly influenced by the particulars of an application and the evidence that is put before the Board.

3. Evolution of Regulatory Models

The Traditional Regulatory Compact

We all know that regulation was invented for those industries in which natural monopoly prevails. By natural monopoly, we mean an industry in which one service provider can provide a service at lowest cost. This arises in industries that are characterized by large economies of scale, which usually means a cost structure with high fixed costs and relatively low operating costs. As illustrated in Diagram 1, a single company operating at an output level of Q can provide the service at a lower average cost than two companies operating at 2 Q. Some of the classic examples of these industries include natural gas and electricity distribution, water supply, local telephone service, long-distance gas and electricity transmission.

**Diagram 1**

In a pure natural monopoly situation, it would be inefficient to introduce competition because the costs of providing the service would increase. Therefore, in the traditional model, efficiency is promoted by maximizing the benefits of a non-competitive, highly capital intensive business.

In businesses such as electricity or natural gas distribution and transmission, one must make large investments in fixed capital which are literally “sunk” in the ground, and from which one can only recover the capital over a long period of time. In other words, they are inherently risky ventures. If a company has to make such an investment in an uncertain business climate, the cost of financing may become prohibitive, as investors would have to expect very high returns in order to risk their capital.

For a major part of the last century, governments in western countries were very keen to develop their energy infrastructures and provide electricity and gas service to a high percentage of
the population. The combination of these policy goals and the inherent cost structure of these industries led to the emergence of a “regulatory compact” built around cost-of-service regulation.

Under the traditional regulatory compact, a utility was provided with a guaranteed market and was allowed to recover all prudently incurred costs. Under such an arrangement, the risk of investing in and operating a utility was greatly lowered, and investment was encouraged. The low risk environment allowed utilities to borrow at low interest rates, and it allowed them to operate with very thin equity components, thereby further lowering the overall cost of capital. Since capital costs are the major portion of the cost structure, the benefits of lowering the investment risks were very large indeed.

The assured nature of the market also meant that the utility could afford to recapture its investment over an extended period of time; i.e. low depreciation rates could be used. Finally, the low risk nature of the utility’s business in the sheltered regulatory environment meant that returns on investment could be lower than those in riskier competitive businesses.

All of these outcomes of the regulatory compact - low borrowing costs, low rates of return, low depreciation rates - translated into lower rates for consumers. Therefore, the cost-of-service model can be considered as having been extremely successful in promoting investment in infrastructure while delivering reasonable rates to customers.

However, as you all know, there were also problems with the traditional model. First, there were arguably few real incentives to minimize capital spending, because a larger rate base meant higher overall returns. Second, there was little incentive to provide customer-responsive service because there was no alternative. It has long been believed that many utilities were poorly run from a customer perspective and that, with the absence of choices to buyers, there would never be real improvements in service.

Another problem with cost-of-service regulation is that the prices that emerge do not reflect the market value of services. Thus, they may not send the proper signals to market participants with respect to the best use of existing facilities or with respect to the need for new investment. Finally, cost-of-service tended to pit utilities against their customers in adversarial costly public hearings.

The New Model(s)

Disenchantment with cost-of-service during the 1980s, along with a world-wide trend to privatization and technological developments in many sectors, led policy makers to believe that it was time to embrace a new model. One popular model has been to introduce competition in network industries such as natural gas and electricity by allowing buyers and sellers to directly contract with one another, while maintaining regulation over the pure monopoly transmission and distribution elements. I call this the “network” model.

Price deregulation and the introduction of open access on natural gas transmission networks in the late 1980s has been a huge success. Natural gas quickly emerged as a commodity that is freely traded on transparent open markets, thereby creating many efficiencies in the industry. Further, with the exception of this last year, natural gas prices have been much lower in the deregulated environment than they were in the previous heavily regulated environment.
The attempts to follow the natural gas network model and introduce competition between generators in the electric power industry has so far met with mixed success. The complete rollout of competition in electricity in Ontario has been indefinitely delayed and, as we speak, there are many parties who are demanding a similar delay be adopted in Alberta. Electricity restructuring does not appear to have worked very well in California, where rates have increased significantly in recent months. However, it has met with more success in Pennsylvania, New Zealand and England.

In some industries, such as telecommunications, a new model has been emerging - one which we might term “Competition amongst the Few”. This model differs from the network model in that, due to technological progress, competition between network operators in the provision of many basic services has been made possible. However, due to considerable economies of scale, the market can only accommodate a few large players. In this model, the belief is that the introduction of some competition is preferable to sticking with a traditional monopoly. Although market power still exists, the competition, which takes place among a few large service providers, will lead to innovation and better service than would occur under a single service provider.

What, then, are the main characteristics of the “Competition amongst the Few” model? First, to encourage risk-taking, there must be more pricing flexibility to allow for the possibility of higher returns. This is an essential component of this model. The main justification from moving away from cost-of-service in a monopoly environment must be that companies will strive to produce new and better services. However, they must have an opportunity to profit if they are successful in delivering what customers want. On the flip side, the potential for higher earnings means that companies must be exposed to the risk of earning lower returns than they would under traditional cost-of-service regulation.

The following table summarizes the pros and cons of the traditional cost of service model in the context of a natural monopoly versus the new regulatory model based on competition amongst the few. In looking at the table, one can see that there is basically a trade-off between the benefits of a low-risk environment against a more uncertain environment that holds out the promise of new ways of doing business that will create greater value for service users in the long run. This is a difficult assessment and the results may vary sharply from industry to industry.
There is a greater potential for the abuse of market power in the “Competition amongst the Few” model. Thus, the regulator must balance the benefits of pricing and service flexibility against the need to protect captive customers. The challenge is to ensure that this protection is not so tight that all incentives to innovate are completely diluted.

These challenges have led to questions about how one can measure market power and how one can assess when there is adequate competition in the market to allow market pricing. For example, the FERC often follows the guideline that there should be at least 5 roughly equal-sized companies in a market before it can be considered to be effectively competitive. This guideline was also followed in the recent Alberta power auction, under which no single company was allowed to purchase the right to market more than 20% of Alberta’s power production.

In my view, it is a somewhat difficult exercise to try and devise formulas to measure market power. Each market situation will be different. At times, there only need be two companies in a market for real competition to occur. In other situations, a market may not be adequately competitive unless there are more than 5 companies operating. Each case will require judgement based on the specific circumstances of the case.

On balance, I would suggest that regulators should probably err on the side of allowing flexibility rather than constraining the ability of companies to design and price their services. Of course, the regulator will have to closely monitor the market for abuses of market power and should provide a regulatory recourse for handling customers’ complaints.

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<th><strong>Traditional Cost of Service</strong></th>
<th><strong>Competition amongst the Few</strong></th>
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<td><strong>Pros</strong></td>
<td><strong>Pros</strong></td>
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<tr>
<td>$ Low-risk environment</td>
<td>$ More innovation, customer-responsiveness</td>
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<tr>
<td>$ Stability</td>
<td>$ Encourage risk-taking</td>
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<td>$ Lower capital costs</td>
<td>$ Greater profit potential</td>
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<td>$ Regulatory protection of customers</td>
<td>$ Prices better reflect market value of services</td>
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<tr>
<td><strong>Cons</strong></td>
<td><strong>Cons</strong></td>
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<tr>
<td>$ Lack of incentive to get costs down</td>
<td>$ Riskier environment, more uncertainty</td>
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<td>$ Lack of incentive to provide customer-responsive service</td>
<td>$ Potential for abuse of market power</td>
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<td>$ Lack of innovation</td>
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<td>$ Prices do not reflect market value</td>
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4. The Future of Natural Gas Pipeline Regulation - Competition amongst the Few

We can now turn to the question of the appropriate approach to the regulation of long distance natural gas transmission pipelines in Canada. As discussed above, we must start with an examination of the structure of the industry.

In my view, it is clear that the horse is out of the barn. In the last little while, the gas pipeline industry has evolved from something close to a pure monopoly to a market characterized by competition amongst the few. The entry of Alliance and Vector, along with several shorter by-pass lines, has resulted in a move away from the traditional “network” model in which the transmission network is a pure monopoly and competition only takes place between buyers and sellers of the commodity. We now have direct competition taking place between pipeline companies.

Competition between gas pipelines takes place in both the producing basins and the consuming regions. Producers in western Canada may choose to move their gas to markets in California via TransCanada or Foothills-owned facilities, to the Pacific Northwest via Westcoast facilities, or to mid-west and eastern markets on either TransCanada, Foothills, or Alliance. At the other end of the pipeline, buyers in Ontario may access gas through TransCanada or Alliance, as well as accessing U.S. gas supplies through the facilities of ANR/MichCon via the Link pipeline.

While competition between pipelines has been increasing, it is by no means approaching the traditional concept of a competitive market. TransCanada, in particular, still owns most of the natural gas transmission capacity leaving the WCSB and carries the lion’s share of natural gas to markets in Ontario and Quebec. Gas buyers in Manitoba and northern Ontario can physically access natural gas only through the TransCanada system. Similarly, Maritimes and Northeast provides the only pipeline supply to Nova Scotia and New Brunswick.

Overall, we have what I like to term a “messy” market structure, composed of a mix of competition and market power. In some market segments, competition is fierce and very real, while in others it is still rather weak. This view of the nature of emerging market structures in the energy industry is shared by other industry observers. For example, I would like to quote from a paper by Dr. Johannes Bauer of Ohio State University which was delivered at this year’s annual NARUC course on regulation.

“More realistic notions of the forms and functions of competition are needed to understand and assess the impact of market forces on the performance of network industries. The structural characteristics of network industries result in market processes that are often very different from the ideal of perfect competition. Competition is likely to be a turbulent process with many desirable and undesirable effects. It is likely that a patchwork of competition will emerge and that intensely competitive market segments will co-exist with monopolistic segments.”

Although Dr. Bauer was speaking in general terms, I think his description applies perfectly to the structure of the Canadian natural gas transmission market. The market is a complicated mix of competition and market power.

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2 *Competition in Network Industries*, East Lansing, July 12, 2000
So what is the appropriate regulatory model for this market structure? Clearly, the
appropriate approach for each pipeline will depend upon its particular circumstances. For example,
for a pipeline such as Maritimes and Northeast, traditional cost-of-service may continue to be entirely
appropriate given the lack of alternatives that shippers have. However, for gas transportation into
Ontario, for which several options exist, it would appear that the “Competition amongst the Few”
model applies most closely.

As discussed above, this regulatory model implies:

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more pricing and service flexibility for pipelines - which in turn means more service,
innovation and more market-based pricing of services
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more variability in earnings
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a greater need to monitor for abuses of market power

5. Future Role of the Regulator

If one accepts my view that the market structure for gas pipelines is messy, then the first by-
word for regulation will be flexibility. In a messy market structure, characterized by imperfect
competition amongst a few companies, the regulator must be prepared to adopt flexible approaches
that meet the needs of each situation. Since each pipeline’s situation will be unique, it is unlikely that
a “one size fits all” approach will be viable over the long term.

I would also suggest that, in a messy market, we will have to accept some messy market
outcomes. In a world of competition between a few companies, each of which is struggling for
market share and/or survival, we cannot expect the textbook outcomes of a competitive market. It is
highly probable that, at any point in time, there will be some parties who are “winning” and others
who will feel that they are “losing”. In this situation, the regulator will have to guard abuses of
market power while not always achieving a perfect standard of fairness.

In this situation, I suggest that the regulator must stay focused on long-term outcomes. As
stated at the outset, these outcomes should result in a more efficient gas transportation network; i.e.
there should be adequate capacity to serve markets, services should meet the needs of shippers, and
services should be priced as close as possible to their market value.

I would also suggest that regulatory decisions should continually facilitate an evolution to a
more market-based pipeline transportation market, and should resist temptations to micro-manage the
outcomes. The Board will have to be able to keep an eye on the long run desirable outcomes while
dealing with the complexities of individual cases.

Above, I suggested that the first regulatory by-word might be flexibility. To flexibility, I
would add balance and restraint. The Board will have to be able to continually balance the interests
of individual parties, and balance the specific interests of parties against the general industry interest
in efficient long-term solutions. In addition, it may have to restrain itself from attempting to fix all
problems.
6. Summary

They often say that a good speech consists of “telling them what you’re going to tell them, telling them, and then telling them what you told them”. Here’s the telling you what I told you part.

The structure of the natural gas transmission market in Canada is evolving from a traditional market structure to a messy market structure characterized by “competition amongst the few”.

The benefits of this new market should be increased innovation, better responsiveness to customers’ needs and, in the long run, a more efficient gas transportation system.

The model of “Competition amongst the Few” implies more pricing flexibility for service providers, more choice for shippers, and potentially, more risk for all market participants.

In the short run, the messy market may result in messy outcomes. At any point in time, there will be winners and losers. However, in the long run, the increased competition amongst service providers will result in a more efficient and customer-responsive pipeline network.

The by-words for the regulator must be flexibility, balance and restraint.

In closing, I must emphasize that I have provided my view of the likely future role of the regulator. However, the NEB will always make each decision based on the facts of each case that is presented to it. Although I believe that the comments I have made today reflect the long-term evolution of the industry, it is not entirely clear to me how each step on this road will unfold. Of only one thing am I sure - it will be a most interesting journey!