

La Régie de l'énergie
Demande de Hydro-Québec
Dossier R-3401-98

Hydro-Québec tariff application

Evidence of Roland Priddle

1 **What is the purpose of your evidence?**

2 Canadian regulatory tribunals have had little experience to date of
3 dealing with tariff applications in respect of electricity transmission.
4 However, Canadian tribunals have had many decades of experience of
5 dealing with gas transmission tariffs in the form of "rate filings" and
6 «rate applications». While there are of course technical differences
7 between the two forms of energy and the means of their transportation,
8 there are important economic similarities. I respectfully submit that it
9 will be helpful to the Régie, in examining and disposing of Hydro-
10 Québec`s application, to have before it some evidence about gas
11 transmission tariff regulation in Canada, particularly as carried out by
12 the National Energy Board ("the Board" or "NEB"). I seek to provide
13 such evidence and I respectfully draw some conclusions from it for the
14 Régie's consideration.

15

16 **Do you propose as well to provide similar evidence about oil**
17 **pipeline transportation rates?**

18

19 No, and for several reasons:

- 20 1. NEB regulated oil pipelines are common carriers, that is they
21 must in principle accept all quantities that are tendered for
22 shipment and must pro-rate service in the event that capacity is
23 not sufficient to meet all requests. Gas pipelines are contract
24 carriers and are only required to provide service to shippers who
25 have entered into a contractual relationship with them.
- 26 2. Typically, oil pipeline rates are based on a commodity charge
27 only (rate per volume shipped). Gas pipeline rates are based on
28 the reservation by the contracting party of an amount of capacity
29 on the pipeline. The rate must be paid whether or not that
30 capacity is used.

- 1 3. Dozens of segregated grades of crude oil, refined oil products
2 and, in the case of the Interprovincial Oil Pipeline, various
3 natural gas liquids, are transported for individual shippers on
4 Canada's major oil pipelines. Marketable pipeline gas is a
5 completely fungible commodity that can be readily traded within
6 the pipeline system.
- 7 4. It is usual for an oil pipeline to provide facilities for the use of
8 particular shippers. Such facilities are separately tolled on a
9 "user pay" basis. An example would be a lateral pipeline
10 connecting an oil refinery owned by one shipper with the main
11 pipeline system used by many shippers. By contrast, it is unusual
12 for a gas pipeline to provide facilities for the use of only one
13 shipper or an identifiable group of shippers¹.
- 14 5. As a result of the situation in regard to oil pipelines summarized
15 in point number 4, the NEB has developed and applied the
16 concept of "stand alone tolling" for circumstances where the
17 costs associated with particular facilities can be clearly
18 attributed to their users². This situation is very rare in gas
19 pipeline regulation.

20 In each of the circumstances cited above, the case of oil transportation
21 by pipeline is either not analogous or is less analogous to the case of
22 high voltage electricity transmission than is the case of gas transmission
23 by pipeline. For this reason I do not propose to provide evidence about
24 oil pipeline rate regulation.

25

26 **What is the nature of the evidence that you wish to submit?**

27

28 I shall describe the policies inherent in certain National Energy Board
29 decisions respecting such matters as: maintenance of a single rate base;
30 the roll-in of incremental capital costs to that rate base as system

1 expansions have occurred; the recovery in one pipeline's cost of service
2 of the cost of service of a second pipeline that is integrated, in
3 engineering terms, with the first; the interpretation of what constitutes
4 "cost based tolls"; and the use of «postage stamp tolls».

5
6 I shall also make observations about the decisions of the Alberta Energy
7 and Utilities Board ("EUB") in respect of gas transmission tolls. I shall
8 do so from my standpoint as the former head of a sister tribunal.

9
10 My evidence is oriented throughout towards regulatory policy
11 considerations rather than related to the technical detail of toll design.

12
13 **Is it possible to speak of «policies» in tariff regulation when each**
14 **case has to be decided on its merits?**

15
16 Yes, I believe that it is. A regulatory tribunal has to take account of,
17 among other things:

- 18
19 1. The particular facts before it and arguments presented in relation
20 to those facts;
21 2. The rule that each member hearing the case is an independent
22 decision-taker; and
23 3. The importance, for the regulated entity and the users of that
24 entity's services, of consistency in its successive decisions.

25
26 The basic fact situations relating to transmission rates are unlikely to
27 change fundamentally in the time between successive applications. In
28 those circumstances, an experienced and professional tribunal, although
29 not formally bound by precedent, will not readily overturn the principles
30 that are necessarily embodied in its earlier decision(s). Any inclination

1 by such a regulator to do so is further tempered by the tribunal's desire
2 to deal regulation in a consistent manner, resulting in stable and
3 predictable decision taking.

4
5 These are the reasons why it is possible and correct to speak of
6 "policies" in tariff regulation.³

7
8 **Do the comments you have just made have any relevance to the**
9 **present case, the first to come before the Régie in respect of**
10 **transmission rates?**

11
12 Yes: I respectfully submit that they highlight the importance of the
13 Régie's current activity. I say "respectfully", because the new Régie is
14 already three years old, has in that time taken many important decisions,
15 its members are knowledgeable and experienced, it is assisted by a
16 capable staff and it is the heir to a long history of sound regulation of
17 the gas industry by the Régie du gaz naturel.

18
19 My experience, observation and understanding of «regulatory policies»
20 followed by other Canadian tribunals suggest that the Régie's
21 decision(s) in the present case will have an enduring impact on
22 Hydro-Québec's rate design. It would not be an exaggeration to assert
23 that it will profoundly affect the development of Québec's electricity
24 industry, its energy sector and, through that, the economy of the
25 province at large.

26
27 **Can you provide an example of the enduring impact of a first rate**
28 **decision in the gas transmission industry?**

29

1 Yes: the National Energy Board's 1973 decision in respect of
2 TransCanada PipeLines' rates⁴ embodied principles that are with us 27
3 years later. I refer particularly to: the single rate base; the roll-in of all
4 costs to that rate base; the two-part toll; and the toll zones established at
5 that time. These principles have fundamentally impacted the
6 development of the Canadian gas industry for nearly three decades and
7 have importantly shaped the energy markets of the consuming
8 provinces, including Québec's.

9
10 **Has the National Energy Board dealt with an application to "sub-**
11 **divide the rate base" of a gas transmission business and what was**
12 **its decision in that case?**

13
14 The outstanding case involved the application by TransCanada
15 PipeLines in March 1972 for a toll design to recover the cost of service
16 for the 1970 test year determined by the Board's January 1972 decision
17 expressed in Order TG-1-72.

18
19 TransCanada in its application "segregated the costs of transmission as
20 between the "western system" and the "eastern system", separated at the
21 Manitoba-Ontario border, for the stated reason, *inter alia*, that the
22 construction and operation costs of the eastern system were much
23 higher than those of the western system"⁵.

24
25 The Board rejected this segregation because, to quote its own words
26 "...the purpose and character of the TransCanada system implies and
27 reasonably requires sharing by all customers of system costs as well as
28 benefits. The Board therefore rejects the Applicant's separation of its
29 system into eastern and western segments for the purpose of cost
30 classification." ⁶ The Board had earlier found that "...TransCanada is

1 an integrated natural gas transmission company whose system was
2 planned, designed, built and is now operated as an entity for the benefit
3 of all its customers." ⁷

4
5 Against the background of this decision, in a sense a decision of
6 "regulatory policy", all NEB-regulated gas transmission pipelines
7 maintain essentially "single rate bases" for mainline transportation rate-
8 making purposes.

9
10 **Are there any exceptions to the generalization you have just made?**

11
12 I cannot think of any exception to the generalization as I have framed it
13 There are separate rate bases in some special circumstances, but they
14 fall outside the above definition. The most notable example is the
15 maintenance by Westcoast Energy of separate rate bases for mainline
16 transmission on the one hand and for gathering and gas processing on
17 the other, but these are technically and economically separate
18 businesses. There will also be cases where there is separation for
19 purposes of identifying the costs attributable to a specific service and
20 relating the charge for that service to those costs. The notable example
21 is the Board's decision in favour of stand-alone tolling of facilities
22 designed to meet the needs of a group of shippers for facilities to inject
23 natural gas liquids (NGLs) into the Interprovincial Pipe Line Company's
24 lines at Edmonton, Alberta. The Board's reasoning was that the costs in
25 question could be clearly attributed to a group of users, that stand-alone
26 tolling would minimize any potential cross subsidization, provide
27 appropriate price signals for decision taking and that stand-alone tolling
28 was particularly appropriate where, as is in this case, competing
29 privately-owned facilities were available.⁸

30

1 **Has the National Energy Board taken decisions to "roll-in"**
2 **incremental capital (and operating) costs of gas transmission in any**
3 **significant cases before it?**

4
5 Starting with the first TransCanada rate case in 1969-73, it has been the
6 Board's practice, for each gas pipeline under its jurisdiction, to "roll-in"
7 to one rate base, and therefore to one cost of service, all of the capital
8 costs associated with its facilities⁹.

9
10 The gas pipelines regulated by the NEB have never, since 1973, applied
11 again to "divide the rate base". However, intervenors have from time to
12 time mounted vigorous attacks on the "rolled-in" method of calculating
13 tolls. The salient case is GH-5-89 (see footnote 9). It related to the toll
14 design element of an application for a pipeline expansion that would
15 add nearly \$2.6 billion of new facilities, mainly to serve export markets,
16 to an existing depreciated rate base of some \$3.0 billion. This
17 represented an increase in rate base of some 80% to achieve an increase
18 in capacity of some 19%.

19
20 The Industrial Gas Users' Association proposed¹⁰ that the cost of all the
21 new facilities required to serve export markets should be included in a
22 separate rate base. The Canadian Petroleum Association ("CPA")
23 proposed that all new shippers on the pipeline system, while paying a
24 rolled-in toll, ¹¹should make a capital contribution to offset 50% of the
25 additional capital burden attributable to the expansion. The Consumers'
26 Gas Company Limited proposed a method by which all new shippers
27 would pay a rolled-in toll and also a demand surcharge.

28
29 The National Energy Board decided that all the new pipeline facilities
30 applied for should be rolled in to TransCanada's rate base for toll

1 purposes.¹² The Board dismissed all of the arguments for a separate rate
2 base, a capital contribution or a demand surcharge on the following
3 grounds, each of which reflects and responds to the arguments made for
4 those alternative methodologies:

- 5 1. The alternatives to the existing toll design based on the roll-in
6 ("the alternatives") would shield existing shippers from some or
7 all of the additional costs associated with the new facilities: the
8 Board considered that the existing toll payers have no acquired
9 rights but simply have a right to provision of service.
- 10 2. The effect of the alternatives would be to discriminate among
11 shippers on the basis of when they commenced paying tolls and
12 started to receive service: the Board considered that this
13 discrimination is not justified.
- 14 3. The effect of the capital contribution alternative proposed by
15 CPA would be to present a barrier to entry for new participants
16 in the marketplace: this would limit competition and give
17 existing shippers an undue competitive advantage.
- 18 4. Shippers to the U.S. northeast market should not pay a different
19 toll merely because they are shipping to that market, and the
20 Board did not consider the U.S. northeast market to be a new
21 one.
- 22 5. To consider new facilities to the U.S. northeast as the equivalent
23 of a separate pipeline would be a denial of the realities of the
24 integrated pipeline system. The facilities cannot be physically
25 separated.
- 26 6. When the new facilities are completed, they will become an
27 integral part of TransCanada's pipeline system and will not be
28 associated with or dedicated to any individual shippers' gas.

- 1 7. It is the aggregate demand of all shippers (and therefore not of
2 "new shippers" only) that gives rise to the need for additional
3 pipeline capacity.
- 4 8. Facilitating the (natural gas) deregulation process, per se, is not
5 a legitimate consideration for toll methodology.
- 6 9. While simplicity in toll design is not as important a factor in the
7 administration of tolls as it once was, nevertheless, the ease with
8 which a toll methodology can be understood and the practical
9 problems of administration are factors that the Board considers.
- 10 10. No evidence was submitted which demonstrated that an
11 incremental toll methodology would yield economic efficiency
12 improvements over the rolled-in methodology.

13

14 **Could you in one sentence summarize the essence of the NEB's**
15 **"rolled-in tolling decision" in GH-5-89?**

16

17 Yes: "TransCanada's gas transmission system is an integrated one in
18 which no shipper has any historically acquired rights, other than to
19 the provision of service, and in which the aggregate demand of all
20 shippers, domestic and export, gives rise to the need for additional
21 capacity, so there is no justification for discriminating between
22 classes of shipper."

23

24

25

26 **Is there anything else in the evidence of GH-5-89 to which you**
27 **would like to draw attention in the present context?**

28

29 Yes: the applicant and one intervenor pointed out that
30 TransCanada's tolls had, in 1990, been set on a rolled-in basis for 32

1 years (now, 42 years) and that the Board had upheld this
2 methodology in several prior decisions, including rate cases in 1973,
3 1974, its 1981 decision to roll in the costs of Trans Québec and
4 Maritimes Pipeline Inc. ("TQM"), and GH-2-87 released in 1988¹³.
5 This is consistency of regulatory practice in action.

6
7 **Is there anything you particularly want to note from those**
8 **earlier decisions?**

9
10 Yes, for completeness I should note that GH-2-87¹⁴, not GH-5-89,
11 presented the Board's first comprehensive treatment of the rolled-in
12 issue. As with GH-5-89, it arose in connection with a large pipeline
13 expansion, the incremental unit costs of which were much greater
14 than the average costs attributable to the existing plant.

15
16 As a consequence, the Industrial Gas Users' Association proposed
17 that TransCanada's rate base should theoretically be split into two
18 separate rate bases, with one for domestic service and one for export
19 service. Previous capital expansions could be reviewed and
20 allocated to domestic or export rate bases.

21
22 The Board rejected this attack on and alternative to the rolled in
23 approach on the following principal grounds¹⁵:

- 24
25 1. Acceptance by the Board of the notion of "acquired rights"
26 of existing shippers would mean that past tolls were not just
27 and reasonable.
28 2. The Board rejects the concept of what were later (in GH-5-
29 89) termed "acquired rights" by existing shippers.

- 1 3. The service provided by the new facilities contributes to the
- 2 capacity and integrity of the integrated system as a whole.
- 3 4. The rolled-in approach, avoids the toll design complexity
- 4 inherent in the incremental approach. It is impractical to
- 5 divide the existing system into component parts or multiple
- 6 incremental rate bases. The Board gave this less weight than
- 7 the considerations in numbers 2 and 3 above.
- 8 5. The rolled-in approach is not in conflict with deregulation,
- 9 the promotion of gas industry growth and the stability of
- 10 tolls over time.

11

12 **What do you understand by the term "postage stamp tolls" and**

13 **what has been the practice in Canada as to the use of such tolls**

14 **on gas transmission systems?**

15

16 **The term "postage stamp tolls"**

17

18 "Postage stamp tolls" are tolls (or rates) that are the same regardless

19 of the distance that the natural gas travels in the pipeline.

20

21 **Canadian regulatory practice in regard to postage stamp tolls**

22 **for gas transmission**

23

24 The general practice in Canada, as well as in the U.S.A., is in

25 principle to charge tolls on a volume ¹⁶(e.g. cubic metre)-distance

26 (e.g. kilometre) basis for the receipt and delivery points between

27 which the gas travels, but to charge those tolls on an average basis

28 in large geographic toll zones.

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TransCanada PipeLines

Thus, from its completion in 1957, TransCanada's tolls have been designed in relation to, first, six and since 1973, five zones. This means that gas delivered to TransCanada at its principal receipt point, near Empress, in eastern Alberta, is carried for the same rate from that receipt point to any delivery point within each of the zones. Thus, gas transported from Empress to Sarnia pays the same rate as gas delivered to Québec City, since both these points are located in the Eastern Toll Zone. The effect is to create a series of large *de facto* postage stamp zones within which the rate or price of transportation services for gas shipped from outside the zone is the same.

The Eastern zone of TransCanada, roughly described by a triangle drawn through the points Sarnia-North Bay-Québec City, is large, extending some 1,150 kilometres from south-west to north-east, and much more if the lines from North Bay to Toronto (313 kilometres) and to Ottawa (426 kilometres) are included . This is the largest postage stamp on TransCanada's system.

It is noteworthy that the Eastern zone was created in 1973 by a decision of the National Energy Board that rejected TransCanada's application to retain the Central and Eastern zones and Union Gas' request to create a Southwestern (Ontario) zone. At that time, the new Eastern zone encompassed 70% of TransCanada's Canadian deliveries on a postage stamp basis. By 1999 that proportion had risen to 82.1%¹⁷. The Board concluded in 1973 that the new

1 Eastern zone's characteristics "will be in keeping with the
2 geographic and economic characteristics of the area served"¹⁸.

3
4 The Eastern zone was effectively enlarged eastwards beyond
5 Montreal to Québec City in 1983 by the inclusion in TransCanada's
6 cost of service of the cost of service of a new, separately owned
7 pipeline 342 kilometre pipeline, Trans Québec and Maritimes
8 Pipeline Inc.(TQM)¹⁹.

9
10 The issue of the size of the Eastern zone has been examined in a
11 number of proceedings²⁰. It was subject to special scrutiny, and
12 came under particular attack in 1986-87 in connection with a
13 comprehensive hearing into TransCanada's tolls²¹The attack focused
14 on the treatment, for purposes of TransCanada's tolls, of TQM's cost
15 of service as "Transmission by Others ("TBO")" by which TQM's
16 toll becomes an integral part of the tolls paid by TransCanada's
17 customers.

18
19 The principal argument made against this TBO treatment for TQM's
20 tolls was that it constitutes a cross subsidy by all users of the system
21 of Québec customers. The Canadian Petroleum Association stated
22 that Québec customers, while using all of TQM's capacity, pay only
23 20% of the cost of that pipeline. CPA, with support from other
24 intervenors, argued that this is not fair and that tolls should be
25 designed on a "user pay" basis.

26
27 The NEB decided however to include TQM's costs in TransCanada's
28 revenue requirement for cost allocation and toll design purposes and
29 to leave the Eastern zone unchanged. Its wise reasoning²²,
30 summarized in the following points, is instructive:

- 1
- 2 1. Cross subsidies should be avoided, but they are inevitable in
- 3 an integrated toll design.
- 4 2. The elimination of cross subsidies could be a desirable goal,
- 5 but must be balanced against other principles such as
- 6 fairness and equity²³.
- 7 3. The provision of accurate market signals is another desirable
- 8 goal. Accurate market signals are, according to economic
- 9 theory, provided by setting prices equal to marginal cost.
- 10 However, the bulk of TQM's costs (indeed the costs of any
- 11 pipeline) are sunk costs. The regulator therefore has to deal
- 12 with the fair and equitable allocation of sunk costs.
- 13 4. The proposal not to treat TQM's costs as TBO when such
- 14 treatment would continue to be granted to costs of an
- 15 American pipeline, Great Lakes Gas Transmission
- 16 Company, and another Canadian pipeline, Union Gas, would
- 17 not result in tolls that are just and reasonable, as is required
- 18 by the NEB Act.
- 19

20 In conclusion, the Board recognized that "the Eastern zone
21 dimensions were established in the light of past economic, political
22 and investment decisions made to achieve objectives which at the
23 time were developed in the public interest of the country"²⁴. The
24 Board therefore found that setting the Eastern zone tolls on the basis
25 of allocating the costs, principally embedded costs, equally to all
26 users in the Eastern zone continues to be just and reasonable and in
27 the public interest.

28

29

30 **How are TransCanada's export tolls designed?**

1
2 TransCanada's export tolls are designed on a point-to-point basis.
3 This means that a specific rate is calculated from each receipt point
4 to each export delivery point, for example from Empress, Alberta to
5 Sabrevois, Québec.

6
7 This method of calculating export tolls, like the "zoning" of
8 domestic tolls, has been used since the inception of exports some 40
9 years ago. It was last examined in a public hearing in 1988-89.²⁵

10
11 In that hearing, TransCanada stated that it viewed each export point
12 as being a separate and distinct zone, because each export point
13 serves a particular market or market area of the United States and
14 each of these markets is dissimilar to the adjacent Canadian market.

15
16 In its decision²⁶, the Board concluded that the existing point-to-point
17 methodology for exports remained appropriate. It noted that the toll
18 methodology allocated the cost of service between export and
19 domestic traffic as well as between domestic toll zones on a point-to-
20 point basis (the point-to-point calculation for domestic toll zones, I
21 would note, is based on the geographical load centre of the toll zone,
22 that is the point within a toll zone that represents the weighted
23 average of all deliveries in that zone.)

24
25 The dissenting opinion²⁷ of A.D.Hunt from that decision is
26 interesting from two standpoints.

27
28 First, it attacked the practice of zone tolling on the grounds that it
29 results in cross-subsidization and called for an examination of
30 whether the zone system should be replaced by separate point-to-

1 point tolls between all receipt and delivery points on TransCanada's
2 system. The important fact here is that this proposal, although
3 advanced by a respected and experienced board member, has drawn
4 no response at all from the Board, the pipeline or its stakeholders at
5 any time in the eleven years since the matter was raised by Mr. Hunt.
6 This suggests that the Board, TransCanada PipeLines and its
7 stakeholders tend to see the postage-stamp type of zone tolling as
8 "settled law".

9
10 Second, the dissenting member commented that, if all export tolls
11 were converted to the corresponding domestic zone rates, this
12 "...might influence decisions respecting export projects". Point-to-
13 point export tolls of course increase as gas is shipped further east on
14 TransCanada's system. Therefore export tolls at Sabrevois, Québec
15 are higher than those at Niagara Falls, Ontario. If exports were to pay
16 the same domestic zone rate at both points, this would have the
17 effect of providing "free" transportation over a distance of some 400
18 kilometres. I believe that Mr.Hunt's analysis in this respect is correct
19 and that he has identified a concern of the Board in deciding against
20 the use of domestic zone tolls for exports, even though that concern
21 was not expressed by the majority.

22
23 **Does not TransCanada's export toll design contrast with what**
24 **you describe as the "*de facto*" postage stamp treatment by zones**
25 **for domestic deliveries?**

26
27 I agree that the point-to-point treatment of export deliveries contrasts
28 with the postage stamp treatment by zones of domestic deliveries.
29 All toll designs are compromises. If the compromise of a zone toll
30 for exports had been adopted, it would probably have had

1 unintended consequences for the design of export projects, as
2 suggested by Mr. Hunt. Therefore, when the issue was raised in the
3 1988-89 proceeding, TransCanada recommended and the Board
4 accepted to retain point-to-point export tolls. The contrast in toll
5 methodologies therefore remained. However, the Board was still
6 able to make the necessary determination that both designs yielded
7 just and reasonable tolls. I think this points up the freedom that the
8 Board retains to accept different toll designs in different practical
9 circumstances.

10 11 **Maritimes and Northeast Pipelines Project ("M&NPP")**

12
13 This gas transmission pipeline extends 558 kilometres from
14 Goldboro, Nova Scotia to the Canada-United States border at St.
15 Stephen, New Brunswick. Gas receipts and deliveries commenced
16 in early 2000. Lateral pipelines to Cape Breton, Halifax and St. John
17 have been or are now being constructed.

18
19 The Joint Public Review Panel that examined the Sable Gas Projects
20 ("SOEP"), of which M&NP forms part, recommended to the NEB
21 that the provisions of a "Joint Position on Tolling and Laterals" be
22 approved²⁸. That Joint Position reflected an agreement between
23 M&NP, the provinces of Nova Scotia and New Brunswick and the
24 SOEP. Essentially, it confirmed the parties' agreement with
25 M&NP's applied-for postage stamp tolling structure. This means
26 that in principle the same tolls apply to all delivery points,
27 regardless of their distance from the single receipt point at Goldboro
28 of gas from the SOEP offshore fields. This same postage stamp toll
29 applies also to deliveries off all of the lateral pipelines, regardless of
30 their length. As a separate element, provision is made for certain

1 term-limited discounts from those tolls, greater and for a longer
2 duration in respect of Nova Scotia than for New Brunswick delivery
3 points. The cost of extending those discounts will be reflected in an
4 adjustment to M&NP's depreciation.

5
6 The NEB acted on this recommendation by directing M&NPP "...to
7 file tolls that are designed using this methodology and incorporate
8 the provisions respecting toll design and laterals as contained in
9 (reference to Appendix V of the Joint Review Panel Report)".²⁹

10
11 The essential reason for the pipeline to propose, the Joint
12 Agreement parties to accept, the Joint Review Panel to recommend
13 and the NEB to approve postage stamp tolling is the integrated
14 nature of the whole pipeline project. Without the construction and
15 operation of the whole line, including the capacity dedicated to
16 export (initially about 50 %), it would not be possible to supply any
17 gas to any one delivery point in Canada, regardless how close that
18 point was to the receipt point of the gas from offshore.

19
20
21 **Alliance Pipeline Limited ("Alliance")**

22
23 The Alliance Pipeline involves the construction of 771 km of lateral
24 pipelines and 1565 km of mainline pipeline in Canada, extending
25 from northeast British Columbia to the international boundary near
26 Elmore, Saskatchewan and from there, under U.S.A. jurisdiction, a
27 further 1430 km of mainline continue to a point near Chicago,
28 Illinois for a total mainline distance of 2995 km.³⁰

29

1 The pipeline, which is expected to come into service on October 1,
2 2000, has 44 receipt points in Canada and only one delivery point, at
3 Joliet near Chicago, in the U.S.A. There is a small surcharge for
4 transportation of gas by a lateral in British Columbia between
5 Aitken Creek and Taylor, a distance of some 75 km. Apart from that
6 surcharge, there is only one (postage stamp) toll for service from
7 any receipt point to Joliet.

8 In evidence at the NEB proceeding, Alliance stated that the single
9 postage stamp toll was part of a transportation service package that
10 satisfied the needs of the shippers, owners and lenders associated
11 with the project.

12
13 The Board considered that the toll methodology should reflect the
14 principle of cost causation. It found that the postage stamp toll,
15 described briefly above, best reflected the principle that tolls should
16 reflect the cost of the service provided. Taking account of the fact
17 that the tolls were negotiated between Alliance and its shippers, and
18 that none of the shippers objected to the proposed toll methodology,
19 the Board found that the resulting tolls are just and reasonable and
20 without unjust discrimination. The Board's views on traffic, tolls
21 and tariff matters are expressed very briefly (one page only in
22 Reasons for Decision that, including appended material, occupy 123
23 pages in total)³¹. This is because Alliance presented a negotiated
24 tariff and, having noted this as evidence of shippers's satisfaction
25 with the proposal, it is not the Board's practice in those
26 circumstances to offer any comments. Instead it simply makes the
27 finding, which by law it must, that the methodology would result in
28 just and reasonable tolls without unjust discrimination.
29

1 I am persuaded that Alliance proposed and negotiated and the
2 Board accepted the single (postage stamp) toll for all service except
3 that between Taylor and Aitken Creek on the philosophical grounds
4 that this, like M&NP, is an integrated project in which no part of the
5 project could have proceeded without construction of the whole.

6
7 In my judgment, this is a sound reason for the choice of a postage
8 stamp toll. It recognizes that effectively all of the capital costs of the
9 system had to be incurred in order to provide service over any part
10 of the system. Viewed in this perspective, questions of cost
11 allocation and their results in terms of distance-sensitive toll designs
12 simply do not arise. The short haul shipper is not cross-subsidizing
13 the long haul one. Neither shipper could obtain service without the
14 existence of the whole system. It is therefore justified to charge the
15 whole system's costs equally to all shippers.

16
17 **NOVA Gas Transmission Ltd. ("NGTL")**

18
19 The NGTL gas gathering and transmission system is large, covering
20 virtually the whole of Alberta, therefore extending over an area very
21 approximately 1,000 kilometres north-south by about 600
22 kilometres east-west. It contains a large variety of pipe sizes (the
23 counterpart of varying sizes of electricity transmission line) from
24 relatively small-diameter lines connecting gas processing plants to
25 very large diameter trunk pipelines forming a "spines" that reach
26 across the province and to its borders.

27
28 NGTL is provincially regulated. At the company's inception in
29 1954, regulation was carried out directly by the provincial
30 government under the Act that created NGTL. From 1978, the

1 government received and acted on recommendations by the Public
2 Utilities Board (PUB). From the late 1980's regulation has been
3 carried out by the PUB and its successor organization, the Energy
4 and Utilities Board (EUB).

5
6 For purposes of understanding changes in rate design, NGTL's
7 business consists of two main elements: "intra-Alberta", namely the
8 receipt of gas and its delivery to points within the province (local
9 distribution companies, industrial users)) and "export from the
10 province", namely the receipt of gas and its delivery over greater
11 distances to connecting pipelines (TransCanada being the principal
12 one) at the province's borders with British Columbia and
13 Saskatchewan.

14
15 The historical approach to NGTL rate design presents several
16 interesting features. Briefly, it has gone from (a) the complexities of
17 specific cost of service being attributed to individual shippers to (b)
18 postage stamps to (c) a rate design put in place in April 2000 that
19 provides for a large number of different receipt and delivery tolls³².

20 In summary, the development has been as follows:

- 21
22 1. From the inception of the NGTL system (1954) until 1980,
23 the rate design was based on the "dedicated plant method".
24 This means that specific units of plant were dedicated to
25 individual shippers under cost of service agreements that
26 provided for the recovery of the corresponding owning and
27 operating costs. As the number of customers and the scope
28 of their activities increased, the allocation of part of the total
29 plant to specific customers became an arbitrary and complex
30 process.

- 1 2. Based on a 1978 recommendation by the PUB, from 1980,
2 in respect of export service, and from 1986 in respect of
3 intra-Alberta service, NGTL's costs have been rolled-in to a
4 single rate base and recovered through postage stamp tolls.
5 The design was initially a straight commodity rate (charge
6 per volume of gas transported) but in 1986 was changed in
7 respect of export service to a two-part demand/commodity
8 postage stamp. Under the two-part system, NGTL's fixed
9 costs were recovered through a demand charge based on
10 contracted volumes and variable costs were recovered
11 through a commodity charge.
- 12 3. From 1989, the demand/commodity postage stamp was
13 applied to intra-Alberta service as well. However, that
14 postage stamp was effectively about half of the rate applied
15 to export service. This reflected the fact that the average
16 distance traveled by gas to be delivered within the province
17 is about half of that for export delivery.
- 18 4. The province-wide postage stamp rate design endured for
19 eleven years. Its appropriateness was carefully examined by
20 the EUB in 1995³³. The postage stamp was challenged by
21 only one out of hundreds of NGTL shippers. The EUB
22 decided to accept the continuation of the postage stamp rate
23 design. In its decision, the EUB recapitulated the reasons
24 that had led the PUB in 1978 to find and recommend that the
25 postage stamp method was the most acceptable alternative³⁴.
26 The reasons were that:
27 The (NGTL) system was fully integrated;
28 The postage stamp method was simple to administer and
29 easy to understand;
30 It avoided arbitrary zoning;

1 It facilitated gas exchanges and recognized economies of
2 scale;
3 It would encourage gas development in all areas of the
4 province (of Alberta) and allow buyers to compete for the
5 purchase of gas in all areas of the province; and
6 It would eliminate differences amongst producers, making it
7 possible for the producer associations (there were two at the
8 time) to represent them more effectively.

9
10 In its 1995 decision, the EUB said that, with the exception of the
11 final reason, which it believed to be of dubious merit as a toll
12 design objective, the postage stamp rates on NGTL continue to
13 meet the objectives set out by the PUB and to have the attributes
14 which the PUB ascribed to them.

15
16 The EUB in 1995 dealt with the charge that postage stamp rates
17 are unfair. It considered that such rates are "...consistent with
18 the nature and value of the services offered by NGTL and
19 is...fair under these circumstances. This approach is also
20 reasonable given the complexity of delivery patterns on NGTL's
21 system and the difficulty of allocating costs to particular flows
22 of gas."

23
24 The EUB recognized that some trade-offs have been made in
25 allocating costs on an aggregate basis under the postage stamp
26 methodology. It considered that "Some elements of fairness and
27 economic efficiency have been exchanged for simplicity and
28 other attributes." The value of those benefits, the EUB said, had
29 been reflected in the wide acceptance of the postage stamp by
30 participants in the 1995 hearing³⁵.

1
2 The postage stamp toll design has been replaced since April 2000
3 by Receipt Point Specific Rates. This means that there is a
4 separate rate for gas from every one of the hundreds of receipt
5 points on the NGTL system. The rate design is such that, on
6 average, the charge for intra-Alberta deliveries is about half that
7 for export deliveries. This ratio was maintained for the reasons
8 cited in item 3 above. The EUB approved this rate design because
9 it "best meets accepted rate making principles and is in the public
10 interest". However it is very important to note that the 1999
11 hearing that led to this decision³⁶ was brought about by some very
12 unusual circumstances. These circumstances were as follows.

13 A number of oil and gas companies (Northstar, Pan Canadian
14 Petroleum--the one opponent of postage stamp tolls in the 1995
15 EUB proceeding) and an intra-Alberta pipeline (ATCO
16 Pipelines) brought, or proposed to bring, applications to the
17 NEB seeking that regulator's approval to build relatively short
18 inter-provincial gas pipelines that would "by-pass" NGTL's
19 system. These new pipelines would draw on gas fields located
20 nearer to the main export points from the province than the
21 "average Alberta gas field", they would cross the provincial
22 boundary, thereby coming under federal jurisdiction, and there
23 they would connect to the major international and inter-
24 provincial pipeline systems. They could therefore be built and
25 operated for costs less than the NGTL export postage stamp toll.
26 The effect would of course be to take volumes away from NGTL
27 and increase costs for all the shippers who stayed with that
28 system.
29

1 Initially, NGTL negotiated a lower rates for shipments on its
2 system by Pan Canadian Petroleum and then Northstar (they
3 were known as Load Retention Services and designated LRS³⁷
4 and LRS-2³⁸, respectively), which then abandoned its projected
5 inter-provincial pipeline project. However, as more applications
6 were made to the NEB by gas producers who wanted to get the
7 same benefits, the pressure to change the postage stamp in
8 favour of rates that were more related to distance of haul became
9 irresistible. After a lengthy stakeholder consultation process,
10 NGTL applied for a new rate design. It submitted to the EUB
11 that the bypass proposals that had emerged since the 1995
12 hearing that endorsed the postage stamp necessitated a change. It
13 also submitted that, in a new market reality of pipeline
14 competition, it should have the tools needed to compete against
15 new pipelines³⁹.

16
17 The new rate design provides these tools by yielding rates for
18 "short haul" gas exports that will be sufficiently low to compete
19 successfully against what was described as "inefficient bypass of
20 the NGTL system"⁴⁰. The new design was based on two and
21 one-half years of consultation with its stakeholders, who were
22 concerned about the potential impact of bypass on NGTL's rates
23 under the postage stamp system

24
25 This, then, is in summary form the story of the collapse of the
26 NGTL comprehensive postage stamp rate design, brought about
27 essentially by one shipper (Pan Canadian Petroleum) that was in
28 a position to build a competing by-pass pipeline to yield a per
29 unit cost of shipment well below that of the NGTL's export
30 postage stamp rate.

1
2 **What has been the position of the National Energy Board in**
3 **regard to cost causation as a consideration in toll design?**
4

5 All pipeline tolls charged pursuant to the National Energy Board
6 Act must be "just and reasonable".⁴¹ The Board considers cost
7 causation to be one approach to making tolls just and
8 reasonable. However, the Board has noted that "...in an
9 integrated system as complex as TransCanada's, it is not always
10 practical to determine the precise costs caused by the provision
11 of a specific service. Accordingly, modifications to a strict cost-
12 causation approach...are necessary."⁴² The Board went on to
13 observe that one such modification is the use of toll zones to
14 deal with a multitude of delivery points within a geographical
15 region. We have already noted the cases of Alliance Pipeline and
16 Maritimes and Northeast Pipeline where there is in effect only
17 one toll zone for each (a "postage stamp").
18

19 **What has been the position of the Gouvernement du Québec**
20 **and of Québec corporations in relation to such matters as**
21 **the Eastern Zone of TransCanada PipeLines and the**
22 **inclusion of TQM's costs in TBO for TransCanada?**
23

24 The Gouvernement du Québec and Québec corporations have
25 consistently supported the Eastern zone, with its *de facto*
26 postage stamps tolls and the inclusion of TQM's cost of service
27 as TBO for TransCanada. Thus, to exemplify:

- 28 1. Québec, Gaz du Québec and Gaz Metropolitan Inc.
29 ("GMi") in relation to RH-1-72, all argued vigorously
30 and eventually successfully in favour of combining

1 TransCanada's then-existing Central and Eastern zones
2 into a large new Eastern zone, with consequent cost
3 benefits for Québec customers. Québec "...urged that
4 rates be designed which would result in a broader and
5 more economical access to natural gas in Québec and
6 hence would have the effect of optimizing the economic
7 development of the Province." ⁴³

- 8 2. TQM, GMi, Societe Québécoise d'Initiatives Petrolieres
9 ("SOQUIP") and le Procureur général du Québec
10 ("Québec") all opposed those who in the RH-3-86
11 proceeding wished to have TQM's cost of service
12 charged separately to its shippers. These three
13 intervenors filed evidence showing the harmful effects
14 on the Québec gas market that would result from such
15 treatment. I conclude that Québec in principle supports
16 the concept of TBO in respect of TransCanada and the
17 application of this principle to the case of TQM.
- 18 3. TQM, GMi and Québec supported the rolled-in
19 treatment of TransCanada's costs in the GH-5-89 case
20 already cited. Québec used strong words, arguing that a
21 user-pay approach (as compared to a rolled-in one)
22 "constituerait une entrave importante tant au
23 développement de marchés gaziers qu'à la mise en valeur
24 du gaz naturel."⁴⁴
- 25 4. TQM, GMi and Québec supported the rolled-in
26 treatment of the large addition to TQM's facilities known
27 as the "PNGTS Extension", involving a new pipeline
28 from Lachenaie to East Hereford, Québec, a distance of
29 some 213 kilometres at a cost of some \$273 million,

- 1 5. The Board is required to observe the "just and reasonable"
2 standard in toll making. In this connection, it has attached
3 importance to cost causation as an approach to making tolls
4 just and reasonable. At the same time, it has felt able to
5 interpret cost causation a flexible manner, leading to the
6 variety of acceptable toll making approaches--zone tolls,
7 postage stamp tolls--described in this evidence.
- 8 6. The Board has openly acknowledged and discussed issues of
9 cross subsidization arising from some aspects of
10 TransCanada's toll design and has consistently found that
11 these are outweighed by other considerations, including
12 markets and political ones.
- 13 7. In this latter context, the Board has clearly tried to recognize
14 that previous toll design, roll in and zoning decisions have
15 shaped the development of the gas industry in areas served by
16 TransCanada and has not wanted to disrupt or impair that
17 development.
- 18 8. Le Gouvernement du Québec has in the case of TransCanada
19 for nearly 30 years, and without any exception, consistently
20 supported such concepts as an undivided rate base, the roll-in
21 of essentially all incremental costs to that rate base, the
22 Eastern zone postage stamp and the inclusion of TQM's costs
23 in TransCanada's under TBO.
- 24 9. The postage stamp tolling of the NGTL system in Alberta,
25 which replaced the dedicated plant method, lasted for more
26 than a decade and enjoyed almost universal approval. It was
27 recently replaced by distance related tolls only because by-
28 pass pipelines could undermine the postage stamp, a situation
29 that does not exist in regard to Québec electricity
30 transmission.

1 10. The principle of postage stamp toll design has been proposed
2 by Canada's newest gas pipeline systems: Maritimes and
3 Northeast (in service 1999) and Alliance (expected to enter
4 service October 2000). In each case the proposal was
5 endorsed by shippers and accepted by the National Energy
6 Board.

7 11. Finally, I respectfully suggest that, if the Hydro-Québec's
8 TransÉnergie transmission system is conceived, planned and
9 operated in an integrated manner, it would be entirely
10 consistent with important elements of Canadian gas
11 transmission toll design, some of which have been vigorously
12 supported by Québec interests, for Hydro-Québec to apply
13 for and for the Régie to approve a postage stamp toll design.
14 Such toll designs have been approved by the National Energy
15 Board, which has a lot of flexibility under its law to accept
16 alternative designs. In this regard, I note that the Loi sur la
17 Régie de l'énergie requires that, when the Régie fixes an
18 electricity transmission tariff, it must "maintenir l'uniformité
19 territoriale de la tarification sur l'ensemble du réseau de
20 transport d'électricité". This requirement appears to me, as a
21 former energy regulator, to constrain the Régie much more
22 than do the laws applicable to its sister tribunals and to
23 dictate the acceptance by the Régie of a postage stamp rate of
24 some kind.

25
26 Endnotes

¹ The only generic exception that I am aware of is the provision, by TransCanada PipeLines, under contract, of higher delivery point pressures than those specified in its tariff. In those several cases, TransCanada sets tolls that are designed to recover the incremental costs incurred at each such delivery point. This requirement was first stipulated by the NEB in its Reasons for Decision, TransCanada PipeLines Limited, GH-2-87, July 1988, section 8.3 "Delivery Pressure Toll", pages 73-80.

² A good example of the circumstances in which certain applied-for facilities were found not to be capable of "joint use" and were therefore to be tolled on a "stand alone" basis is contained in National Energy

Board, Reasons for Decision, Interprovincial Pipeline Company, GHW-5-90 and RH-3-90, February 1991, section 10.1 "Allocation of the Proposed Facilities' Costs", pages 25-29.

³ In this evidence, I use the terms "tariff", "toll" and "rate" interchangeably to mean "prices charged for pipeline transportation services".

⁴ National Energy Board Reasons for Decision, In the matter of the Application under Part IV of the NEB Act (Rates Application - Phase II) by TransCanada PipeLines Limited RH-1-72, May 1973.

⁵ RH-1-72 op cit, page 1 - 4.

⁶ RH-1-72 op cit, page 4 - 7

⁷ RH-1-72 op cit, page 4 - 6

⁸ National Energy Board, Reasons for Decision, Interprovincial Pipe Line Company, GHW-5-90 and RH-3-90, February 1991. Note that, while some NGL's are gases under the definitions of the NEB Act, they are treated as "oil" for the purposes of transportation in the regulated facilities of Interprovincial Pipe Line ("IPL"). Note too, that IPL, which is an oil pipeline, handles many grades of crude oil and oil products as well as NGLs. It is possible (and necessary) to segregate these materials and to attribute different costs to their handling. Such separation is not possible or necessary in the case of natural gas which is a homogenous energy commodity.

⁹ The NEB's definition of "roll-in" is as follows: "Under the rolled-in method, the capital and operating costs of new facilities are added to those of the existing facilities and the total costs are then allocated on a volume-distance basis."

(National Energy Board, Reasons for Decision, TransCanada PipeLines Limited, GH-5-89, November 1990, Volume 1 "Tolling and Economic Feasibility").

¹⁰ GH-5-89, op cit, Chapter 2, Section 2.1 "Toll Treatments Proposed", pages 3-4.

¹¹ Ibid, Section 2.1, Toll Treatments Proposed.

¹² Ibid, Section 2.3 "Views of the Board", pages 11-14

¹³ Ibid, page 11, Section 2.2.10, "Practicality, Stability and Administrative Simplicity".

¹⁴ National Energy Board, Reasons for Decision, TransCanada PipeLines Limited, GH-2-87, July 1988.

¹⁵ Ibid, pages 69-71, Section 8.2 "Toll Methodologies Considered".

¹⁶ While volume-distance is the basis for calculation, the tolls are now expressed in terms of heat units.

¹⁷ Communication from TransCanada PipeLines, July 3, 2000.

¹⁸ RH-1-72, op cit, page 6 - 4.

¹⁹ National Energy Board, Reasons for Decision, Trans Québec & Maritimes Pipeline Inc., RH-4-82, June 1983, pages 3 and 4.

²⁰ These include: "The NEB Report to the Minister of Energy Mines and Resources on Natural Gas in the Domestic Market", November 1981; RH-3-82; and RH-2-84.

²¹ National Energy Board, Reasons for Decision, TransCanada PipeLines Limited, RH-3-86, May 1987.

²² RH-3-86, pages 54-56.

²³ Note that the points in numbers 1 and 2 here were favourably cited by le Procureur général du Québec in his argument in GH-5-89: see Plaidoirie du Procureur général (Me Trudel), transcript, page 13008.

²⁴ Ibid, page 56, last paragraph

²⁵ National Energy Board, Reasons for Decision, TransCanada PipeLines Limited, Tolls, RH-1-88, June 1989, pages 45-48, section 8.3 "Export Transportation Tolls" and pages 73-76, section 10.1 Dissenting Opinion of Mr.A.D.Hunt.

²⁶ Ibid, page 48.

²⁷ Ibid, pages 75-76.

²⁸ The Joint Public Review Panel Report--Sable Gas Projects, October 1997, page 70, Recommendation 70. The Joint Position is set out in Appendix V to the Review Panel's Report, page 127.

²⁹ National Energy Board Reasons for Decision, Sable Offshore Energy Project and Maritimes & Northeast Pipeline Project, GH-6-96, December 1997, page 14.

³⁰ National Energy Board, Reasons for Decision, Alliance Pipeline Ltd, Facilities and Tolls & Tariffs, GH-3-97, November 1998, page xiv, "Overview".

³¹ Ibid, Section 6.1 Traffic, Tolls & Tariffs, Views of the Board, pages 82-83.

³² This and the following summary are taken from section 1.1 "Background and History of NGTL's Rate Design" in the Energy and Utilities Board Decision 2000-6 "NOVA Gas Transmission Ltd. 1999 Products and Pricing", published February 2000, pages 3-4.

³³ Energy and Utilities Board, Decision U96055, "NOVA Gas Transmission Limited, 1995 General Rate Application Phase II", published June 1996.

³⁴ Ibid, Section 2. Rate Design, (a) Postage Stamp versus Distance Sensitive Rates, pages 36-42.

³⁵ Ibid, pages 37 paragraph 2 and page 38 paragraph 1.

³⁶ Alberta Energy and Utilities Board, Nova Gas Transmission Limited, Decision 2000-6 "NOVA Gas Transmission Ltd. 1999 Products and Pricing", February 2000.

³⁷ LRS approved by EUB Decision U97096.

³⁸ LRS-2 approved by EUB Decision U99042, in which the EUB stated that NGTL should address alternatives to load retention rates in a full and meaningful way prior to requesting future load retention service.

³⁹ Alberta Energy and Utilities Board, Decision 2000-6, op.cit., Section 1.2 The Application, page 5 and Section 2.1 The Industry Process, page 9.

⁴⁰ Ibid, page 9.

⁴¹ National Energy Board Act, s. 62.

⁴² National Energy Board, GH-2-87, page 71

⁴³ RH-1-72, page 2 - 11.

⁴⁴ GH-5-89, Plaidoirie du Procureur Général du Québec (Me.Trudel), page 12996

⁴⁵ National Energy Board, Reasons for Decision, Trans Québec & Maritimes Pipeline Inc., PNGTS Extension, GH-1-97, April 1998, page 17, section 3.1 "Specific Facilities" and pages 34-38, "Tolling Matters".