

The Fair Return Standard for Return on Investment by Canadian Gas Utilities:

Meaning, Application, Results, Implications

**The Honourable John C. Major
Former Justice, Supreme Court of Canada**

**Roland Priddle
President, Roland Priddle Energy Consulting Inc.
Former Chair of the National Energy Board**

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Acronyms and Abbreviations

AAM	Automatic adjustment mechanism
Alberta Board	Alberta Energy and Utilities Board
ATWACC	After-tax weighted average cost of capital
AUC	Alberta Utilities Commission
BC Commission	British Columbia Public Utilities Commission
BCUC	British Columbia Utilities Commission
California Commission	California Public Utilities Commission
CAPM	Capital asset pricing model
CE	Comparable earnings
CPUC	California Public Utilities Commission
DCF	Discounted cash flow
ERP	Equity risk premium
EUB	(Alberta) Energy and Utilities Board
FCA	Federal Court of Appeal
FRS	Fair return standard
LDC	Local distribution companies
Manitoba Commission	Manitoba Public Utilities Commission
MPUB	Manitoba Public Utilities Commission
MRP	Market risk premium
NGTL	NOVA Gas Transmission Ltd.
NEB	National Energy Board
NERA	National Economic Research Associates
Northwestern	<i>Northwestern Utilities Ltd v. Edmonton</i> [1929] S.C.R. 186
OEB, Ontario Board	Ontario Energy Board
Régie	Régie de l'énergie (du Québec)
RfD	Reasons for Decision
ROE	Rate of return on equity
SCC	Supreme Court of Canada
TCPL, TransCanada	TransCanada PipeLines Ltd
TQM	Gazoduc TransQuébec & Maritimes

Executive Summary

The meaning of the Fair Return Standard (FRS) Canadian governments responded to the growth of the gas business and the potential for abuse of dominant position in it by placing utilities under the jurisdiction of administrative tribunals. In theory, the extent of this regulation is unlimited. In practice it is constrained by the Constitution Act and by Common Law.

The Supreme Court in *Northwestern Utilities Ltd v. Edmonton* [1929] S.C.R. 186 (Northwestern) defined the scope of the utilities' right to price their product and their right as a result to a fair return. The Court stated "By a fair return is meant that the company will be allowed as large a return on the capital invested in its enterprise (which will be net to the company) as it would receive if it were investing the same amount in other securities possessing an attractiveness, stability and certainty equal to that of the company's enterprise". This definition remains in full legal effect today.

A fair rate of return to the corporation is paramount and is all that can be considered in arriving at a fair rate. In the unrealistic situation that a fair return worked a hardship on the consumer, the choices before government to provide relief are unlimited but they should not lower the fair rate of return. Indeed the Federal Court of Appeal (FCA) in *TransCanada PipeLines v. Canada National Energy Board* 2004 F.C.A. 149 confirmed that a fair return need not be modified out of deference to its impact upon customers.

As the operations of regulated utilities have become larger and more complicated, the courts have developed the view that a selected board of experts could deal more effectively with the rules of rate making than could the courts on appeal. Therefore, as long as the board in question acted within their jurisdiction, a successful appeal was unlikely. Notwithstanding the breadth of discretion afforded a regulator in establishing just and reasonable rates, the mutuality of interest between utilities and their customers nevertheless requires that a fair return be provided for the services rendered. The legal framework governing the determination of that fair return is the "Comparable Return Standard". It does not mandate any particular approach to that fair return.

The application of the FRS The current generic approach by Canadian regulators to gas utility rates of return on equity (ROE) awards pursuant to the FRS evolved after a long period in which regulators applied informed judgment to extensive evidence about a variety of tests. During that period, differing weights were given to the results but, with the exception of one jurisdiction and one test¹, none was ever permanently discarded. Over the years however, greatest reliance came to be placed on the equity risk premium (ERP) model.

With the passage of time, the phenomenon of successive protracted proceedings, eliciting similar evidence, stimulated the search for a generic approach. From the mid-1990's Canadian regulators accreted around the concept of an ROE for a benchmark utility based on an ERP over a risk-free rate, the resulting base-year award then being adjusted

annually by a predetermined automatic mechanism. This is the essence of the generic ROE, now adopted for the regulation of that component of all major gas pipeline and distribution utilities' revenue requirements.

The results of regulators' current application of the FRS The number and duration of rate proceedings has been significantly reduced and in certain jurisdictions the way has been paved for long-term settlements, some of which have made provision for sharing of efficiency gains between customers and owners.

The Canadian approach to return matters stands in strong contrast to that in the USA, with which Canada shares the long tradition of cost of service utility regulation. There, in accordance with essentially similar jurisprudence, the fairness of return on investment is evaluated against the opportunity cost of capital.

While settlements are also common in the USA, American regulators have not pursued the generic ROE approach but instead maintain case by case reviews, emphasize the important role of informed judgment, entertain a variety of evidence, but tend to the discounted cash flow method (DCF) as the default mechanism for their fair return findings.

In the NEB generic ROE era, no new pipelines have applied for tolls based on that determination of ROE. Instead, new projects such as Alliance, Emera Brunswick, Maritimes and Northeast, and Mackenzie Valley have all come before the Board with negotiated tolls based on significantly higher ROEs. This suggests that the NEB's generic ROE is insufficient to attract capital to greenfield gas pipeline projects.

The implications of this application of the FRS The now-universal generic ROE approach by Canadian regulators of major gas utilities has created some regulatory economies. But unfortunately its mechanistic character suspends for lengthy periods the previously-valued application of informed judgment to the results of alternative methods of achieving the FRS required by Canadian jurisprudence in ROE awards.

A wide and unprecedented gap has developed between Canadian gas utility ROEs and those of USA utilities and of North American low risk industrials. This is factual ground for concluding that the FRS, essentially the opportunity cost of capital needed to ensure financial integrity and capital attraction, is no longer being achieved by the generic ROE approach.

Canadian regulatory convergence on the generic ROE may however inhibit its necessary reappraisal because particular regulators may be reluctant to break ranks with the group and because the consensus around an approved generic ROE is widely supported by stakeholders², for reasons of regulatory efficiency and short term economic self-interest.

It would be helpful if, at the same time as specific cases occasionally come before individual regulators³, some further studies of general relevance were to be carried out. For example, examination is recommended of the results, *ex post*, of the generic approach

in terms of the comparability of the resulting returns with non-utility and utility comparators and of the fundamentals of the present design including the choice of the risk-free rate; the appropriate measurement of the risk-premium; the adjustment mechanism; and the place of the DCF model which is accepted by the great majority of North American regulators.

Introduction

The Canadian Gas Association (CGA) Discussion Paper “Return on Equity: Allowed Returns for Canadian Gas Utilities”⁴, highlighted the importance of a “fair return” in supporting investments for the long term strength of the nation’s natural gas grid. The paper went on to summarize the origins and evolution of Canada’s “fair return standard”. The paper noted that Canadian gas utilities are not now receiving allowed returns comparable with those of U.S. gas utilities or low-risk unregulated companies. As a result, Canadian utilities, it stated, are treated unfairly and may be inhibited from offering a robust optimal system that would provide the highest quality of service today and would be properly oriented towards a sustainable energy future.

Against that background, the Association asked the present authors, who had provided advice in the drafting of the Discussion Paper, to expand on some of the issues raised in it, particularly the identified need for the policy community and regulators to ensure that allowed returns remain fair and appropriately reflect the significant changes in their foundational elements such as comparable earnings.

In response, the authors provide here an examination of the meaning of the FRS in jurisprudential terms, discuss its application by Canadian regulators over the decades, review the results of the convergence since the mid-1990s on a generic approach to returns on equity and consider the implications of that approach for the future health of Canada’s gas utility businesses. As to the application of the FRS, regulators have received thousands of pages of evidence and written hundreds summarizing it, providing their views and setting out their reasons for decision. Our discussion is necessarily a selective and summary one. However, we hope not to have omitted any point of fundamental significance.

1. The Jurisprudential Meaning of the Fair Return Standard

The inception of utility regulation in Canada The introduction of utility regulation by governments was grounded in the view that the activity had evolved into a number of sufficiently large corporations operating in a business characterized by natural monopoly and therefore capable of exerting market power to the detriment of consumers.

History demonstrated a number of methods of control available to the authorities. In response to concerns about the monopoly power wielded by Standard Oil, the United States introduced anti-trust legislation which led to its massive restructuring into a number of smaller corporations, forcing increased competition. The result was re-organization of their position from virtual dominance of the sector to competition among the newly formed corporations. Similar experience occurred in diminishing the dominant areas in steel and railroads.

Canada, because of its size in terms of population and domestic product, chose to remove the actual or feared problem of monopolies in the utility field either by use of legislative regulation or by Crown ownership.

In the context of regulation, some economists express the view that a regulator serves as a surrogate for competition in terms of the regulated company's potential dominance of a particular activity. While this may not be a complete explanation of the public purpose, it is a useful analogy. The pertinent and difficult question is what should these regulated companies be entitled to charge their retail, commercial and industrial customers so as to ensure safe and modern service in exchange for a fair return on shareholders' capital?

Regulatory responsibility conferred on administrative tribunals The history of the natural gas industry is a relatively short one: it is only in the early part of the 20th century that independent commercial use started to visibly develop.

As privately-owned utilities started to evolve into fewer but larger companies capable of exerting market power, the response of Canadian governments was utility regulation under which administrative tribunals were given the jurisdiction to regulate private utility companies falling under their mandate. By and large, however, Crown-owned utilities were not regulated in the conventional way since their corporate governance was taken to be enlightened by the government's perception of the public interest of the day.

The recognition of the value of natural gas as a legitimate alternative to electricity and fuel oils as an energy source, and the need for such control, raised a number of regulatory and constitutional issues.

As a preliminary point, it is obvious that the constitutional division of powers dictated by sections 91 and 92 of the *British North America Act* divided the regulatory responsibility between the Federal and Provincial governments. This is a separate subject, capable of

extensive comment, but it is sufficient for this paper to say intra-provincial activity fell to the Provincial Legislatures and extra-provincial activity to the Federal Parliament.

Constraints on the extent of regulation In Canada, the extent to which governments choose to regulate is theoretically unlimited. The absence of property rights for corporations makes them vulnerable to draconian legislation, if our governments so choose. However, the courts have recognized Common Law rights that co-exist with the Canadian Charter of Rights and Freedoms. Expropriation without compensation offends the Common Law rights of persons and corporations and is unknown to have occurred in Canada except for some unusual circumstances during war time.

The full reach and restraint by the Constitution Act or Common Law as they affect persons and corporations is beyond the narrower scope of this paper. It is sufficient to state that the rights are real, recognizable and enforceable.

Jurisprudence concerning utility rates—the fair return standard The important test of the prices or rates to be paid by consumers of natural gas supplied by a public utility has been established by our highest court, the Supreme Court of Canada (SCC). The Court confirmed the right of the companies to price the product within the confines of a fair rate of return on investments for the shareholder.

The SCC defined the scope of that right in 1929 and it remains in full legal effect today. It is consistently referred to and followed. The right to a fair return, and what it is, was defined by the SCC in *Northwestern Utilities Ltd. V. Edmonton*, [1929] S.C.R. 186 where Mr. Justice Lamont stated:

“The duty of the Board was to fix fair and reasonable rates; rates which, under the circumstances, would be fair to the consumer on the one hand, and which, on the other hand, would secure to the company a fair return for the capital invested. By a fair return is meant that the company will be allowed as large a return on the capital invested in its enterprise (which will be net to the company) as it would receive if it were investing the same amount in other securities possessing an attractiveness, stability and certainty equal to that of the company’s enterprise”.

The importance of maintaining safe and reliable service requires a fair return as defined by Mr. Justice Lamont. The consumer has grown accustomed to a high standard in the delivery of gas services. Humanly, they are used to both the high quality of product and service. Equally human, they balk at rate increases while knowing that to avoid deterioration in service, timely increases are necessary.

“Fair return” vs. fairness to the consumer While it has not yet happened, if providing a fair return to utilities as defined by the courts results in hardship for the consumer, how should it be resolved? The greater good is served by the application of Mr. Justice Lamont’s definition. The language found in most legislation refers to words such as rate fair to the corporation and consumer. Fairness to the consumer in that sense is redundant. A fair rate of return to the corporation is paramount and is all that can be

considered in arriving at a fair rate. The fair rate by logic alone should be deemed of necessity fair to the consumer.

That a fair rate of return would be a hardship on the consumer is practically unrealistic. It is academic and an unlikely result. An increase in rates is always unwelcome. If the rate rose to a hardship, some government intervention should be expected or the regulator may adjust the rate design while still ensuring the provision of a “fair return” to the utility. The point is that there are choices for relief, such as subsidies or a rate design short of lowering the fair rate of return. If hardship is the consequence of a fair return, nonetheless, the fair return must be set. Failure to do so over time will, as we have collectively seen, lead inevitably to the deterioration of, and in the extreme case, the failure of service and supply.

The Federal Court of Appeal (FCA) recently restated the principles of a fair return in *TransCanada PipeLines v. Canada National Energy Board* 2004 F.C.A. 149, where it confirmed the logic of Mr. Justice Lamont’s definition by confirming that the fair return need not be modified out of deference to its impact upon customers. A fair return assures the opportunity to earn a level of profit equal to a comparable return from business of similar risk, although flexibility by which the ultimate tolls are designed may mitigate clear hardship or unfairness to consumers. However, by definition, a fair return should not result in these consequences.

Consumers and those outside the industry frequently forget or never considered that while utilities are by law always entitled to a fair return, it is a limited blessing in that higher earnings in buoyant times are not available to the utilities. There are no windfall profits such as may arise in other parts of the energy sector. It is only logical that the other side of that equation applies and a fair rate of return must also be allowed in less prosperous economic times.

Judicial review of regulatory awards The right to a fair return is one foundation of utility jurisprudence. Of concern is the growing development of the law that demonstrates a reluctance of the courts to review regulatory awards.

Until the 1930s, judicial review was more common as the courts viewed it their role to protect the public’s interest. However, as Canada’s industrial base grew and the operation of regulated utilities became both larger and more complicated, the view developed that a selected board of experts could deal more effectively with the rules of rate-making than the courts so long as the board in question acted within their jurisdiction, a successful appeal was unlikely.

The concept of judicial review was more elaborately defined by the SCC in *Pushpanathan v. Canada (Minister of Citizenship and Immigration)*, [1998] 1 S.C.R. 982, where in summary it held that judicial review was identified by three tests. First, was the decision reasonable, second was the decision patently unreasonable and finally was the decision correct in law. It was only the latter, correct in law test, which receives a judicial welcome. It is the present law that a decision by the board must, if a question of

law be correct any other finding or decision of the board must be patently unreasonable before judicial review is available.

The human concern by applicants of regulatory boards is the question of bias and fairness. A board that is neither can mouth the established fair return definition but not accept the applicant's facts. It is obvious that a fair return is dependant on the facts accepted by the Board and, except in extreme circumstances, the courts will not interfere. For fairness to occur dictates good faith by all participants.

Notwithstanding the breadth of the discretion afforded a regulator in establishing just and reasonable rates, the mutuality of interest between utilities and their customers nevertheless requires that a fair return be provided for the services rendered. The term just and reasonable does not displace the common law standard, rather it supports it (NWL 1929; TCPL 2004; see also *Ottawa Electric Railway Co. v. Nepean Township* (1920), 605 S.C.R. 216 at QL5, 11-12; *Chastain v. British Columbia Hydro and Power Authority* (1972), 32 D.L.R. (3d) 443 (C.C.S.C.) McIntyre J. at p. 454-456; *Re City of Dartmouth* [1976], N.S.J. No.457, 17 N.S.R. (2d) 425, MacKegan C.J. at QL para 11). As the Federal Court of Appeal most recently expressed it, failure to observe the fair return standard would result in tolls that are not just and reasonable. In some cases, the courts confirmed that the fair return need not be modified out of deference to its impact upon customers.

Conclusion Accordingly, it can be seen that the legal framework governing the determination of a fair return is the "Comparable Return Standard". It does not mandate any particular approach to the determination of a fair return. The courts have recognized the regulators' expertise in this area as superior to their own. What pervades the courts' approach to the determination of a fair return, however, is the mutuality of interest as amongst utilities and their customers in tying the availability of a fair return to the long term viability of the utility in providing the essential monopoly services our society requires.

The latitude given boards to set rates includes the ability to rely on a formula. It is unlikely that any one formula can fit all rates. A decision by a board that distorts fair return by the application of a formula that achieves that result poses the obvious risk of being incorrect at law and subject to judicial revision on that ground, a result any board would seek to avoid.

2. Application

The place given to the Lamont decision In their decisions on ROE⁵, Canadian gas utility regulators⁶ have seldom made explicit reference to the Lamont decision (Lamont). There have been important exceptions. Thus, in its seminal first decision on TransCanada's rates, the National Energy Board (NEB) in 1971 stated that it had been guided by relevant jurisprudence, as well as by its understanding of the [NEB] Act and then cited the "fair return" portion of the Lamont decision⁷, followed by other now familiar cases, Canadian and American. Then, some 30 years later, in dealing with an application for review and variance of its 1995 decision on Cost of Capital⁸, the Board noted that the applicant had cited Lamont and it went on to summarize the key elements of that decision, stating that in considering the legal framework associated with the determination of a fair return, the Board had looked at both prior judicial and Board consideration of the issue⁹. That 2002 decision was the subject of an application for review and variance and, in addressing the fair return standard, the Board in 2003 examined its legal obligations and again cited Lamont along with other Canadian and American jurisprudence¹⁰. Finally, in dealing in 2005 with an application for new tolls, the Board summarized the evidence and provided its views on the legal framework for determining a fair return, giving attention to Lamont and other cases¹¹. The Alberta Energy and Utilities Board¹² (EUB, Alberta Board) in its landmark July 2004 decision on the Generic Cost of Capital, as part of its consideration of the legislative and judicial framework, examined relevant decisions, Canadian and American, starting with Lamont¹³.

Lamont is present, whether explicitly so or not Despite the scarcity of specific references, it is nevertheless reasonable to assume that, while acting in accordance with their respective legislative mandates, all Canadian regulators in making ROE awards to gas utilities have recognized the jurisprudence relating to fair return, and specifically the Lamont decision, whether they have said so or not. In addition to the Lamont test of "comparable investment" or opportunity cost of capital, drawing on American jurisprudence¹⁴, regulators have concluded that, in order for a return to be fair, it must also meet the tests of "capital attraction" and "financial integrity"¹⁵. In this connection, the Régie de l'Énergie du Québec (Régie) has in several decisions accepted the view that the cost of capital must be evaluated on the basis of the fundamental principle of the market opportunity cost of capital and that the rate of return must allow the regulated entity to assure and maintain its capacity to attract funds under reasonable conditions¹⁶. In other cases, intervenors have drawn regulators' attention to the Lamont text¹⁷. In still others, the regulator has referred obliquely to the objectives of fairness and capital attraction¹⁸.

The traditional approach to ROE determinations Prior to the mid-1990's, the practice of Canadian gas utilities was to make rate applications, often every one or two years¹⁹, generally requiring re-determination of their ROEs as one component of the total revenue requirement that could be recovered in rates. In these proceedings, as the Ontario Energy Board (OEB) has noted, four main approaches were traditionally used by experts

to establish a fair ROE. The Comparable Earnings Test (CE), Discounted Cash Flow (DCF) test, Capital Asset Pricing Model (CAPM) and Equity Risk Premium (ERP) test²⁰, are all used in varying degrees to formulate an opinion regarding a fair return to investors for the test year. Parties, the OEB observed, have generally relied on a combination of these models to establish a utility's ROE. In a combined approach, the OEB and experts before it have assigned different weights to the results of the various tests in order to give more significance to those models which they consider to be the most relevant²¹.

Within the compass of what must be a relatively short paper, it is impossible to trace the outworking of this approach by each of the Canadian gas utility regulators. However, successive NEB Reasons for Decision respecting TransCanada PipeLines' rates illustrate how this approach was followed by one regulator over the quarter century to 1994.

That Board, like others, was careful from the start to point out that "The final conclusion as to what is enough but not too much in the way of return is not precisely supportable on a mathematical basis."²² "Many tests and techniques for assisting the process of reaching a just decision have been used" the Board said "but no single test is conclusive, nor is any group of them definitive: whatever tests may be used, in the last analysis the adjudicating body can not escape the responsibility of exercising judgment as to what, in a stated set of circumstances, is a just and reasonable return or rate of return, or what is a range of justness and reasonableness of return or rate of return."²³ Such reference to the necessity of the exercise of judgment in making return awards is a recurring theme in Canadian regulatory decisions over the years.²⁴

Diversity of tests applied in the traditional approach Reverting to the NEB's practice, in the early years of the Board's "active" regulation of TransCanada's tolls, comparable earnings appear to have been at the centre of its attention. Thus: "The Board concludes, based primarily on the comparable earnings analysis of Canadian industrials which are reasonable alternative investment opportunities for the applicant's shareholders, that a return of...is appropriate for the test year..."²⁵ In an oil pipeline rate case about this time, there was applicant evidence "...that statistics relating to US utilities and industrials deserve perhaps a greater weight in the assessment of the current cost of equity capital than similar Canadian statistics." The Board however disagreed and expressed the belief that "...far greater weight should have been given to Canadian data...Accordingly the Board was particularly interested in the statistics presented relating to Canadian industrials..."²⁶ and concluded "...that the cost of equity should be equal to or slightly less than the opportunity cost of investment in such companies."²⁷

By 1978, the evidence put before the Board included CE and DCF tests, the latter to measure "capital attraction", but additionally the beginnings of the ERP approach appeared. The applicant, TransCanada, was cited to the effect that "...a reasonable ROE could also be inferred from an examination of the yield differentials maintained in the past between long term bonds and those of an equity nature in the regulated industry".²⁸

However, in that particular case, the Board again stated that it paid particular consideration to "...the CE of Canadian industrials which it believes to be representative of reasonable alternative investment opportunities for the applicant's shareholders."²⁹

Over time, the ERP becomes the focus By 1981, intervenor evidence was being filed before the NEB and it related to the DCF method while the applicant relied primarily on the CE test³⁰. However, within a couple of years something of a pattern had been established that was to last until the mid-1990s with the applicant and one intervenor filing CE, DCF and ERP evidence while gas-producer intervenors were focussing their efforts on the DCF approach.³¹ In assessing this spectrum of evidence, the NEB tended over time to place at first "slightly more" reliance on ERP, to find inherent distortions in the CE data that it received and to be concerned about the results of the DCF test. By the time of the last rate hearing prior to the generic cost of capital proceeding, the Board found that "...in the light of recent and prevailing financial market conditions, neither the DCF test nor the CE test currently yield reliable results..." Accordingly these tests were given little or no weight in the Board's decision" and instead the Board was of the view that "...the ERP was the primary measure of investors' required returns in the circumstances of this case." However, the Board was careful to state its view that these tests (CE, DCF) may prove useful under different economic conditions.³²

This era during which Canadian regulators determined ROE awards by reviewing evidence from multiple tests and applying their own judgment was summarized for the British Columbia Utilities Commission (BCUC, the BC Commission) in evidence and referred to by the Commission in a 2006 decision³³ as follows:

"The evidence is that up to the 1960s the principal methodology to determine fair rates of return was CE, as, according to Dr. Booth, the DCF method and the ERP method which was derived from the CAPM, were developed in the 1960s. By the 1980s all three methodologies were in use in Canada. In the early 1990s capital markets in Canada fell into considerable turmoil, causing DCF and CE to give unreliable results, which resulted in the ERP becoming the main, if not the sole, methodology used by regulatory bodies in Canada to establish fair rates of return...The DCF and CE methods have never managed to restore themselves to favour in regulatory bodies' eyes...In the United States the DCF and CAPM methods got their start in the 1970s and have survived nearly unchanged as the primary rate of return methods, with the DCF the virtual default method in practically all U.S. regulatory jurisdictions."³⁴

Search for a generic approach to ROE The context for the search by Canadian regulators for a generic approach to ROE was characterized by: frequent rate applications; repetitive evidence, often provided by the same expert witnesses, on the three principal tests; growing disenchantment with the CE and DCF tests; and increasing reliance on the ERP approach. That search was led by the BC Commission which "...was the first regulatory agency in Canada to examine the applicability of a generic, formula-based approach to setting a natural gas or electric utility ROE as a means of improving the efficiency and effectiveness of the regulatory process."³⁵

British Columbia In its June 1994 decision resulting from that search,³⁶ the BC Commission expressed the view that the DCF test was of little use in the present economic climate, that CE raised a circularity problem when it was based on utilities data and that primary reliance should be placed on risk premium tests, with CE and DCF as checks. The Commission's view was that generic hearings produce cost savings and better quality of evidence because a variety of experts are gathered at a single point in time. This view has been borne out by the subsequent experiences of, for example, the Alberta Board and the NEB.

National Energy Board When the NEB reported its generic return decision nine months later in March 1995, it found that CE was only useful as a check, that there were practical limitations on the DCF method and that most experts gave primary weight to the ERP, which the Board also did. Annual adjustments in the resulting ROE were to be in a ratio of 0.75 of the forecasted change in the yields of Government of Canada long-term bonds (long Canadas).³⁷ The NEB later referred to this as "the RH-2-94 formula".

Manitoba Two months after that, the Manitoba Board Public Utilities Board (Manitoba Board, MPUB) decided a gas distributor rate case, prior to which the applicant had proposed a mechanical formula to adjust the Board's then-currently allowed ROE. The Board approved a spread, effectively an ERP, between long Canadas and the ROE for the distributor and an adjustment factor of 0.80 of the change in the underlying long Canada bond yields.³⁸

Ontario The OEB has since 1997 followed its own guidelines on a formula-based return on common equity for utilities under its regulation.³⁹ The initial setup involved establishing a just and reasonable return applicable to each of the Ontario local distribution companies. This base comprised a forecasted yield on long Canadas for the test year to which was added an appropriate premium. The primary methodological approach to be used in evaluating the appropriate risk premium was the ERP. The annual adjustment factor proposed was 0.75 of the difference between the forecasted long Canadas yield and the corresponding forecasted yield for the immediately preceding year. The OEB gave three reasons for adopting the formula approach to ROE. The first was regulatory efficiency, already mentioned. The second was the weight of experience of other Canadian jurisdictions which had reviewed the issue and adopted a formula-based ERP. The third was that it may provide a first step towards formulaic rate making such as incentive rates.⁴⁰

Alberta Alberta was the fifth jurisdiction to adopt a generic approach, which was done by a decision of July 2, 2004. The award for 2004 was based on the CAPM estimate, which the Alberta Energy and Utilities Board (Alberta Board, EUB) found was supported by no less than seven other methods examined in evidence while the Board did not put any weight on four other methods, including DCF and CE.⁴¹ In this connection it is worth noting that the Board took the position that the CE test is not equivalent to the (Lamont) comparable investment test. The Board observed that the CE test measures actual earnings on actual book value of comparable companies, however it does not

measure the return “...it would receive if it were investing the same amount in other securities possessing an attractiveness, stability and certainty equal to that of the company’s enterprise.”⁴² This conceptual concern was one of the reasons the Board gave to place no weight on the CE test. Nevertheless, the Board did consider that there may be other measures of comparable investments that should be considered in establishing an appropriate ROE. It went on to examine eight possible ones.^{43 44} As to the adjustment mechanism, the Alberta Board concluded that an adjustment to the generic ROE based on 0.75 of the change in forecasted long-Canada bond yield would be appropriate, beginning in 2005.⁴⁵

Québec The Régie has since its decision D-99-11 of 10 February 1999 respecting a rates application by Gas Métropolitain, applied a *de facto* generic ROE based on the CAPM model with an annual adjustment equal to 0.75 of the forecasted change in the risk-free return.⁴⁶ This approach was reconsidered in 2007: the ERP was adjusted marginally upwards on the assessment that Gaz Métropolitain’s risk had increased compared to that of the benchmark distribution utility. The adjustment mechanism was to be left unchanged through 2009. In the 2007 proceeding, the applicant introduced as an alternative to CAPM, for the first time in Canada, the Fama-French model, which is used in the financial industry, but so far used only once in the United States in the regulatory context and never before in Canada.⁴⁷ Even though the two models differ, the objective of both is to estimate the return an investor expects to earn on an investment in securities having a certain risk. The main difference between the two approaches is in the method used to express that risk which, the applicant contended, Fama-French does better than CAPM for utility-type businesses. The Régie however did not retain the Fama-French model for establishing the rate of return in this decision: the Régie considered that the application of that model to regulated enterprises has not been sufficiently examined to date to be used as a basis for fixing the rate of return of a distributor.⁴⁸

The generic approach reviewed and reconfirmed Two of the regulators who pioneered the generic ROE with automatic adjustment mechanism (AAM)—the BC Commission⁴⁹ and the NEB⁵⁰—subsequently reviewed their decisions of the mid-1990s. After again receiving and reviewing much expert testimony, in the NEB case on two separate occasions (2002, 2005), the established methodology was reconfirmed by both. Indeed, one considered that “It is clear the ERP methodology is the “gold standard” for Canadian regulators...” and stated that “...the Commission Panel will give primary weight to its application and results...”⁵¹

A new test rejected TransCanada recommended in the RH-4-2001 NEB proceeding that the Board adopt an After Tax Weighted Average Cost of Capital (ATWACC) methodology to establish a fair return for its mainline. This was a new methodology as far as the NEB was concerned and it rejected it, just as the Régie was in 2007 to reject the Fama-French test, and it reaffirmed the ERP.^{52 53}

Legal obligation to apply the FRS? In its consideration of the application for review of its 2002 decision (RH-R-1-2002), the NEB refuted the assertion of TransCanada that the Board “is required by law to apply the comparable investment, financial integrity and capital attraction standards to determine a fair return for the Mainline” as an overstatement of the law on this issue. The Board went on to note that in its decision which was under review (RH-1-2002), it had agreed that the three components of the FRS, along with the balancing of customer and investor interests should be attributes of a fair return. The Board further noted the statement it had made in RH-1-2002 that these principles are reflected in the various accepted methodologies to establish cost of equity capital, such as the ERP approach, which is the basis of the RH-2-94 Formula and that no one took issue with this statement. In the Board’s view, it was implicit that the application of a test that reflects these standards would result in a return that meets these standards. Therefore, the Board did not have to state explicitly that the resulting return would meet the comparable investment, financial integrity and capital attraction standards. The Board stated that an express finding, such as was sought by TransCanada, which discharges the fundamental legal obligation of the regulator is not necessary when the standards that must be met are imbedded in the methodology used to determine the return. The Board also considered that there is no legal obligation to use an FRS, comprised of the comparable investment, financial integrity and capital attraction standards to determine tolls. Rather, in normal circumstances, a fair return established by the Board should meet those three elements. This, the Board stated, was accomplished through the methodology that was used to determine the return.⁵⁴ This issue was revisited in depth by the NEB in RH-2-2004, Phase II, which followed the decision of the FCA in TCPL v. NEB. The Board stated that it “...also agrees with TransCanada that the case law establishes that it is the overall return on capital to the company which ought to meet the comparable investment, financial integrity and capital attraction requirements of the fair return standard.”⁵⁵ The Board went on to say that it is not required to meet the FRS by subscribing to any particular methodology or solely by examining evidence on overall return (TCPL had suggested neither). It concluded that it would ensure that each element going into the traditional methodology is “reasonable”, then “...uses its judgment to ensure that the resulting return is a fair return in accordance with the legal requirements.”⁵⁶ In summary, the NEB in RH-2-2004 Phase II accepted that the law requires application of the FRS, including the comparable investment, capital attraction and financial integrity standards, in determining the overall return, but does not stipulate any particular methodology for doing so.

Risk-free rate critiqued The applicant before the BC Commission in 2006 stated, in the words of the Decision, that “the theoretical CAPM assumes that the risk-free rate is uncorrelated with the return on the market. However, the application of the model typically assumes that the return on the market is highly correlated with the risk free rate, that is, that the equity market return and the risk-free rate move in tandem. Similarly, an ROE formula that is predicated on a close tracking between the allowed return and the risk-free rate assumes the risk-free rate and the return on the market are highly correlated. The theoretical CAPM calls for using a risk-free rate, whereas the typical application of the model in the regulatory context employs a long term government bond yield as a

proxy for the risk-free rate. Long-term government bond yields may reflect various factors that render them problematic as an estimate of the “true” risk-free rate, including:

- the yield on long-term government bonds reflects the impact of monetary and fiscal policy;
- yields on long-term government bonds may reflect shifting degrees of investors’ risk aversion; and
- long-term government bond yields are not risk-free; they are subject to interest rate risk.”⁵⁷

This critique of the risk-free rate and the relationship of market returns to that rate, although recorded by the Commission, was not responded to in the Commission’s decision.

Convergence among Canadian gas utility regulators Recent years have seen a rapid and complete convergence among the five Canadian utility regulators who have major gas distribution and transmission entities under their jurisdictions. All now base their ROE awards essentially on judgments as to an appropriate base year ROE for a benchmark utility. In every case, this base year award uses a risk free rate plus an ERP with, in some cases, an allowance for flotation costs. Subsequent annual adjustments are made mechanically on the basis of 0.75 of the changes in the forecasted long Canadas yields.⁵⁸

Insofar as incumbent utilities are affected, the generic ROE plus AAM is entrenched in Canadian regulatory practice—Canadian regulators have in the last dozen years affirmed and reaffirmed the generic ROE based essentially on the ERP methodology as the sole method of awarding and, through the associated AAM, varying the returns on equity for gas utility investors. This position has withstood several review applications and one appeal to the courts. In one important case, as a result of a negotiated settlement, it cannot be reopened before 2012.⁵⁹

Contrast with American practice This Canadian situation stands in sharp contrast with that in the USA with which Canada shares the tradition of cost of service utility regulation where the fairness of return on investment is evaluated against the opportunity cost of capital.⁶⁰ There, only two commissions undertook what turned out to be lengthy, expensive and ultimately unsuccessful searches for a generic solution. There is a longstanding seeming disinterest on the part of the American regulatory community in pursuing this search. Instead, where rate cases are not settled, U.S. regulators continue to rely on the application of judgment to multiple test results⁶¹ with DCF as the default mechanism⁶².

3. Results from the mid-1990s

The number and duration of rate proceedings involving ROE evidence significantly reduced

In the period 1971-1994 inclusive, the NEB in respect of only one company, TransCanada, averaged one rate proceeding every 18 months. It is likely that, with TransCanada having now settled its tolls for the period 1 January 2007 through 31 December 2011, the similar hearings in the period 1995-2011 will turn out to have averaged one per eight years. Similar regulatory efficiencies affecting a large number of utilities, electric as well as gas, are being found by the principal provincial jurisdictions.

In some jurisdictions, the way paved for long-term settlements of rate matters

The NEB's experience again furnishes an example. The Board's decision on a generic rate of return may have been a factor enabling TransCanada⁶³ and Westcoast Energy⁶⁴ to achieve their first multi-year negotiated settlements of remaining toll and tariff matters. Note that one of the objectives of both settlements was "to maintain ("or improve", in the case of TransCanada) the financial integrity..." of the pipeline company.^{65 66}

Regarding the Alberta Board, on the one hand a month after bringing down its Generic Cost of Capital decision in July 2004 approved NOVA Gas Transmission Ltd's (NGTL) application to commence negotiated settlement discussions. These eventuated in a settlement of all revenue requirement issues, return on equity being treated as a flow-through item, for the three-year maximum period allowed by the Board, commencing 1 January 2005.⁶⁷ On the other hand, prior to the implementation of the ROE formula, Northwestern Utilities and ATCO Electric both negotiated settlements. Since the introduction of the formula there have been no long term settlements other than NGTL.

The BC Commission has approved a Settlement Agreement for Terasen Gas for 2004-2007, incorporating a Performance-Based Rate Plan,⁶⁸ and subsequently approved its extension for 2008-2009.⁶⁹

As to pipelines under the NEB's jurisdiction, two points are notable. First, settlements of toll issues have been the norm for oil pipelines since the mid-1990's. Second, all new oil and gas pipelines have applied for tolls, based on settlements, where the ROE exceeds that generated by the Board's generic formula, often by a generous amount.

Transmission utilities' incentive agreements have provided for efficiency gains and sharing of those gains between customers and utility owners

Annual or biennial adversarial proceedings relating to ROE are for transmission businesses now a thing of the past. This may have encouraged and enabled parties to settlement negotiations to build-in to the resulting agreements features that encourage these pipelines to search for efficiencies with the prospect of retaining for the investor a share of those efficiencies. All of the negotiated settlements mentioned in the previous paragraph incorporate such features in one form or another. In a degree, these shared savings mechanisms have cushioned the impact of declining ROEs resulting from the application of the generic ROE decisions in an environment of declining bond yields. For example, in the letter to

shareholders accompanying TransCanada's 1996 Annual Report, the management commented that there had been a one per cent decline in the rate of return on common equity allowed by the NEB in 1996. The letter went on to say "That one per cent represented a reduction in 1995 earnings of about \$21 million that had to be made up. A substantial part of it came from discretionary revenue earned under an incentive agreement reached late in 1995 between TransCanada and its customers. Incentive regulation allows TransCanada to share in discretionary revenues and cost savings."⁷⁰ This cushioning effect may be available to some pipelines on a continuing basis, but in a regulatory context its results must not be seen as an element of a fair return. Fair return relates to the opportunity cost of capital. Earnings from incentive agreements are rewards for extraordinary cost-savings and for entrepreneurship in devising service offerings that create value for which shippers are willing to pay. As the Federal Court of Appeal reminded in the 2004 TransCanada decision,⁷¹ the fair return must be determined independently of its impact upon resulting customer rates.

But Canadian and U.S. regulators' ROE practices are now widely divergent after decades of essentially parallel approaches Canadians have converged on the generic approach using essentially anticipated risk-free rates plus ERP and adjusting by a ratio to anticipated changes in risk-free rates. In the U.S., the federal and one state commission attempted to regularize the ROE component of rate cases, but failed to do so. One commentator has stated that "Efforts to make the process objective and mechanical are futile as an administrative and practical matter."⁷² Instead, where cases are litigated, commissions continue to refer to the legal standards set by the landmark U.S. Supreme Court decisions in Bluefield and Hope. The regulators receive and access data from quantitative financial models and apply informed judgment in order, as the California Public Utilities Commission (CPUC, California Commission) has put it, to arrive at "An ROE set at a level commensurate with market returns on investments having comparable risks, and adequate to enable a utility to attract investors to finance the replacement and expansion of a utility's facilities to fulfill its public utility obligations."⁷³ Moreover, U.S. regulators: have continued to accept evidence that depends in large part on data about other U.S. gas and electric companies' returns; have had at least some regard to short term bond rates; and in some cases have stated a consistent practice to moderate changes in the ROE relative to changes in interest rates in order to increase the stability of ROE over time.⁷⁴

And Canadian gas utility ROEs have fallen significantly below those of American ones and below those of low risk North American industrials Historically, the ROEs of Canadian gas local distribution companies (LDCs) have approximately matched those in the U.S. industry. Since the inception of the generic ROE approach by Canadian regulators, the returns enjoyed by Canadians have fallen increasingly and significantly (up to 150 bp) below those of these comparables. This result arises despite the fact that independent analysis shows that business risks faced by LDCs in Canada do not significantly differ from those in the U.S.; that the greatest risk-determinant for utilities, regulatory risk, is comparable in Canada and the U.S.; and that tax differences do not matter to the comparison of Canadian and U.S.^{75 76}

ROEs for greenfield interprovincial and international pipelines

In the “generic ROE era” it has become the practice for new pipelines subject to NEB jurisdiction to apply for tolls that have been the subject of prior negotiation with shippers. Typically, these tolls reflect ROEs about 300 or more basis points higher than incumbent pipelines, such as Foothills, TCPL, TQM and Westcoast, receive under the generic ROE.⁷⁷ Two points arise. First, this practice suggests that the NEB’s generic ROE is insufficient to attract capital needed for greenfield projects. Second, one wonders whether this *de facto* vintaging of ROEs in the Canadian interprovincial and international pipeline sector breaches a fundamental principle of fairness.

4. Implications

On the one hand, the generic ROE has created regulatory economies and encouraged the search for other efficiencies in the sector The frequency of adversarial proceedings leading to ROE awards has been greatly reduced with consequent public and private savings. The generic ROE may have encouraged negotiated settlements of remaining rate issues, which typically incorporate elements of incentive rate-making encouraging efficiencies in investment and operations. Some utilities may have been able in this way to partially compensate for the low ROEs resulting from the application of the generic formula. However where that may have happened, it has been at the expense of greater risks by the utilities. Even with the presence of incentive features, there is no assurance that settlements will result in a “fair return” being earned each year of the settlement and over its lifetime, which could be as much as five years. The scope to achieve efficiencies while ensuring high quality of service may be exhausted and the overall return may fail to meet the fairness standard.

On the other hand, the generic ROE approach is mechanistic and necessarily suspends the further application of regulatory judgment for extended periods, marking a sharp break with past practice

- It was not uncommon in the past for regulators to expressly reject mechanistic approaches to ROE awards and stress the importance of judgment.⁷⁸ The initial generic decisions and any subsequent reviews, like the annual or biennial rate cases that preceded them, were based on careful assessment of much evidence and the application of informed regulatory judgments.
- However, once decisions are taken on a generic process, including the now universal AAM, the further application of judgment as to whether the FRS is being attained is suspended.⁷⁹ In principle, as the Alberta Board has observed, parties are free at any time to petition the regulator to consider a review of the adjustment formula in which, in Alberta, the petitioning party would bear the onus of demonstrating a material change in facts or circumstances from the evidence filed in its generic proceeding to merit a review of the formula.⁸⁰ In practice, the party’s freedom to petition can be circumscribed for periods as long as five years as a result, for example, of a settlement agreement, a term which can therefore cover one or more economic cycles.

It would appear from work done prior to⁸¹ and parallel with⁸² this review that the FRS may not have been achieved on an ex-post basis This important conclusion is suggested by the comparison of Canadian gas LDCs’ ROEs and the ROEs of U.S. gas utilities and North American low risk industrials, already referred to. It seems reasonable as an aspect of the industry oversight expected of regulators that, especially after a change as fundamental as the generic ROE, they would assess that change in terms of

whether the results required *ex ante* by the FRS have in fact been achieved *ex post*, with particular regard to the opportunity cost of capital. Such an examination by regulators is particularly warranted because the generic ROE plus AAM effectively prevents regulated entities from routinely presenting evidence and argument as to whether *ex post* the resulting ROEs have indeed reflected opportunity pricing of the cost of capital and achieved other objectives of the FRS which the generic regime is intended prospectively to do.⁸³

Two fundamental features driving ROE changes and arguably driving the “wedge” between Canadian LDC returns and others, namely the risk free rate and the AAM ratio appear to deserve critical examination

- On the first point, as noted in Section 2 above, while one applicant has critiqued the risk-free rate, the regulator involved (the BC Commission), although summarizing the applicant’s concerns, did not respond to them. It is not difficult, for instance by reading the Bank of Canada’s periodic comments on factors influencing rates to find reasons to question why LDC ROE’s should be directly linked to bond rates.⁸⁴
- On the second point, the AAM ratio of 0.75 (and the 0.80 chosen initially by one regulator) had some empirical support in the proceedings leading to the respective initial generic decisions. Also it received principled support by the applicants in a number of proceedings. However it appears not subsequently to have been critically evaluated in terms of the behaviours of equity returns of comparable unregulated sectors in relation to changing bond yields in the dozen years since the earliest Canadian generic ROE decisions.
- Regarding U.S. LDC returns, the work of Concentric Energy Advisers for the OEB has shown a much lower coefficient of regression (0.46) between U.S. ROEs and long bonds compared to Ontario ROEs (0.86): in other words, that is for every one percentage point change in interest rates, the Ontario ROEs change by 86 basis points while U.S. ROEs change by 46 basis points.⁸⁵

The generic, mechanistic ROE including the AAM may require some reconsideration, if the FRS is to be achieved on a going forward basis

The work carried out by Concentric for the OEB and by National Economic Research Associates (NERA) for the CGA identifies concerns that sow a doubt as to the ability of the present design of the generic ROE to continuously meet the fair return standard. It is indisputable that this bold and widely-welcomed initiative of Canadian regulators has entrained and encouraged valuable public and private efficiencies. However, in exchange, the generic ROE has reduced the opportunities, present in previous practice, to periodically exercise oversight of this critical element in the revenue requirement, review the results of a variety of tests, apply informed judgments to them, and recalibrate their ROE awards in conformity with their understanding of the FRS. Even though regulators are willing to entertain applications for review of the generic approach, it remains that

there are necessarily fewer examinations of the relevant data to ensure the generic formula plus the AAM continues to produce end results which meet the FRS.

Examination of the results of the generic approach, ex-post, suggests that, in an environment where interest rates have been, first, falling and then stabilizing at low levels, the generic ROE plus an AAM that tracks changes in expected bond yields in a ratio of 0.75 may have pulled ROEs down excessively in relation to the FRS and that, in the judgement of Concentric, “This may require consideration of additional qualitative and financial metrics in making the ROE determination.”⁸⁶ In other words, what was found to be “fair and reasonable” or “just and reasonable” by careful examination of multiple tests and the appropriate exercise of informed judgment, may no longer be so after successive adjustments by admittedly-simple AAMs taking place in continuously changing economic and business conditions.

The remarkable convergence among Canadian gas utility regulators may be an obstacle to reappraisal of the ERP plus AAM approach to the generic ROE

The NEB in dealing with TransCanada’s Fair Return Application dated 6 June 2001, centred on a novel After Tax Weighted Average Cost of Capital (ATWACC) approach, stated: “In summary, in the Board’s view, the lack of regulatory precedent is not a barrier to the adoption of a new approach to regulation. However, in the absence of such precedent and in the absence of any support from stakeholders for the proposed change (meaning to the ATWACC approach—authors), the Board’s analysis of the proposal should show a clear benefit to be derived from the new approach when compared with previous acceptable approaches.”⁸⁷ As already noted, the Régie in 2007 was similarly faced with a novel approach proposed by Gaz Métroplitan, the Fama-French model which, according to the evidence, had never before been used in Canada and only once in the USA. The Régie decided not to retain Fama-French as a method of fixing the ROE because it had not been sufficiently examined to date to be used as a basis for fixing the rate of return of a distributor.⁸⁸

In view of the foregoing, it is reasonable to pose the questions “Is there likely to be regulatory precedent and stakeholder support for initiatives by the gas utility industry for review of and change in the generic ROE?”

As to “regulatory precedent”, it may not be easy for any Canadian regulator to “break ranks” with the rest, particularly after several have relatively recently reviewed their generic ROE practices and decided against major changes to them. Having taken place, regulatory convergence may be a powerful disincentive even for needed changes.

As to “stakeholder support”, it appears that Canadian gas utility stakeholders are continuing in their virtually unanimous support of the respective regulators’ established approaches. In the environment of generally-declining bond yields, the present design of the generic ROE has worked to the short-term economic advantage of industrial users, residential consumers, producers and shippers. This has generated an attitude, common in the regulatory world, of “what we have we hold”. As long as the provision of safe and adequate service does not seem to be immediately at risk, this attitude is likely to

continue. Broad stakeholder support for major revisions favourable to the utilities seems unlikely to materialize so long as utilities seem able to attract capital and avoid impairing their financial integrity. It appears doubtful, however, that the FRS is satisfied by these considerations alone if the end result is unfair relative to returns available from investments in companies of similar risk.

Desirable next steps It would be helpful if, at the same time as specific cases occasionally come before individual regulators,⁸⁹ some further studies of general application were to be carried out. It is not the purpose of this paper to propose an alternative framework for ROE determination. However, any reconsideration should clearly take place against the background of an *ex post* examination of the results of the generic approach in terms of the comparability of the resulting returns with non-utility and utility comparators. It must include the fundamentals of the present design, namely the choice of the risk-free rate, the appropriate measurement of the risk premium and the adjustment mechanism. And it cannot exclude consideration of the place of the DCF model, given its acceptability to a majority of North American regulators. Finally, in an era of North American economic and business integration, the question must be asked “Can Canadian gas utilities successfully compete for capital if their regulators continue to award lower returns on generally thinner equity shares than those enjoyed by the American industry?”

Absent such a reconsideration and consequent adjustment, in an environment of continuing very low interest rates and bond yields, the present generic ROE formula alone may not be protecting the public interest in the provision by incumbent utilities of a robust, flexible natural gas delivery structure financially strong to support future sustainability of our energy economy.

ENDNOTES

¹ The jurisdiction is Alberta. The test is the traditional comparable earnings one. See under heading 2 “Application”, subheading “Alberta” on page 16.

² The word “stakeholder” has become an undefined term of art, particularly in NEB decisions on applications reflecting negotiated settlements, where it may be used as a synonym for parties to those settlements. In this paper, by “stakeholders” are meant parties, other than utility managements and shareholders, who have an economic interest in gas utility rates or tolls and who routinely take part in related regulatory proceedings and in settlement discussions. In this definition, depending on the nature of the utility, “stakeholder” can mean gas producer; shipper; exporter; industrial, commercial or residential consumer; or provincial government.

³ An example may be the application to the NEB by Gazoduc TransQuébec & Maritimes (TQM) for Cost of Capital for 2007 and 2008, revised filing December 18, 2007, the first such application by that company since 1994. However, because of the complexity of the issues involved in this application and because of language considerations, a longer than normal hearing process is required. The hearing is presently scheduled to commence 23 September 2008, which means that a decision on this hearing would not be released until early 2009. See National Energy Board letter to TQM of 22 January 2008, file OF-Tolls-Group1-T201-2007-03 01.

⁴ *Return on Equity: Allowed Returns for Canadian Gas Utilities*. A Discussion Paper Developed by the Canadian Gas Association. Summer 2007. 20 pages in bilingual format.

⁵ The Lamont decision relates to “...a fair return...on the capital invested in its enterprise...” (S.C.R., 1929, page 193). However, the costs of debt and any preferred shares, assuming they are prudently incurred, are usually taken as a cost to be flowed directly through to rates via the cost of service. The ROE is therefore the salient variable in the fair return on the (total) capital invested in the enterprise. The discussion in this paper relates entirely to regulators’ awards for the return on the owners’ equity investment. It does not extend to consideration of what those awards mean in terms of return on the total capital invested by the utility in question even though, and the authors acknowledge this, the entire focus of the Lamont decision is on return on the total capital.

⁶ By “Canadian gas utility regulators” is meant the relevant regulatory boards and commissions of Alberta, British Columbia, Canada, Manitoba, Ontario and Quebec.

⁷ National Energy Board (NEB). Reasons for Decision (RfD). In the Matter of the Application under Part IV of the National Energy Board Act of Trans-Canada Pipelines Limited, RH-1-70, December 1971, pages 6 – 6 to 6 – 9.

⁸ NEB, RfD, TransCanada et al. Cost of Capital. RH-2-94, March 1995.

⁹ NEB, RfD, TransCanada PipeLines Limited. Cost of Capital (Fair Return Application of 6 June 2001). RH-4-2001, June 2002, pages 8-12.

¹⁰ NEB, RfD, TransCanada PipeLines Limited. Review of RH-4-2001 Cost of Capital Decision. RH-R-1-2002, February 2003, Chapter 3: Fair Return Standard, pages 6-12.

¹¹ NEB, RfD, TransCanada PipeLines Limited. Cost of Capital. RH-2-2004 Phase II, April 2005, Chapter 2 Legal Framework for Determining a Fair Return, pages 8-20. In this context, the NEB noted the finding of the Federal Court of Appeal in TransCanada’s unsuccessful appeal of the Board’s 2002 decision. The Court, the Board stated, found that the impact of any resulting toll increases on customers is not a relevant consideration in the determination of the required rate of return on equity.

¹² Since January 1, 2008 the economic regulatory functions of the former EUB in respect of investor-owned and certain municipally-owned utilities are being exercised by the Alberta Utilities Commission (AUC).

¹³ Energy and Utilities Board (EUB), Decision 2004-052, Generic Cost of Capital, July 2, 2004, Section 3.2 Relevant Judicial Decisions, pages 12-13.

¹⁴ The principal American Supreme Court decisions are *Bluefield Water Works & Improvement Company vs. Public Service Commission of The State of West Virginia et al* 262 U.S. 679 [1923] (Bluefield) and *Federal Power Commission et al vs. Hope Natural Gas Co.*, 320 U.S.591 [1944] (Hope). They are cited by the NEB in RH-1-70 (op.cit.) at 6 – 8 and 6 – 9, RH-4-2001 (op.cit.) at page 8 and RH-2-2004 (op.cit.) at pages 14-16.

¹⁵ This is borne out by the Alberta Board in EUB Decision 2004-052 (op.cit.) where after quoting from Northwestern, Hope and Bluefield, it stated at page 13 that “The Board notes that no party took issue with the general consensus that in order for a return to be fair, it must meet the tests of “comparable investment”, “capital attraction” and “financial integrity” described in the above decisions.

¹⁶ « La Régie accepte...que l'évaluation du coût des capitaux propres sur base présumée doit reposer sur le principe fondamental du coût d'opportunité de marché des capitaux propres...La Régie est d'avis que le taux de rendement accordé au Distributeur doit lui permettre d'assurer et de maintenir sa capacité d'attirer les fonds à des conditions raisonnables » Source : Régie de l'Énergie du Québec. Hydro-Québec. D-2003-93. 2 mars 2003, à la page 70. The same principles had earlier been expressed in Régie de l'Énergie du Québec. Hydro-Québec. D-2002-95. 30 avril 2002, à la page 163. These were admittedly electric utility cases, however since the Régie uses essentially the same methodology to determine its ROE awards for Québec gas utilities, it is reasonable to suppose that it does so in pursuit of the same principles of opportunity cost of capital and capital attraction as it applies to the electrical sector.

¹⁷ Manitoba Public Utilities Board Act. Centra Gas Manitoba Inc. General Rate Application. Order No. 99/07, July 27, 2007, page 65.

¹⁸ Ontario Energy Board (OEB) Compendium to Draft Guidelines on a Formula-Based Return on Common Equity for Regulated Utilities (OEB Compendium). Chapter 2: Current OEB Approach, page 2, which reads in part “The Board’s objective in setting the rate of return on rate base is to ensure that the utility is provided with a fair return which enables it to meet its obligations and maintain its capability of attracting capital”.

¹⁹ By way of example, TransCanada PipeLines averaged one such application to the NEB per 18 months in the period 1971-1994 inclusive.

²⁰ The NEB in RH-4-2001 (op.cit.) at page ix (Glossary of Terms) characterizes the ERP method as a family of models that includes CAPM and ECAPM (Empirical Capital Assets Pricing Model). See also RH-4-2001 page 48, second paragraph.

²¹ OEB, op.cit.

²² NEB, RH-1-70 op cit, page 6 – 6.

²³ NEB, op cit, pages 6 – 2 and 6 – 3.

²⁴ The application of informed judgement is similarly a constant in American regulators’ decisions in utility rate cases. Consider the following from the California Commission’s December 15, 2005 Decision 05-12-043 on the Test Year 2006 Return on Equity for the Major Utilities (Pacific Gas and Electric [PG&E], Southern California Edison [SCE] and San Diego Gas and Electric [SDG&E]). At page 23, the Commission stated “In the final analysis, it is the application of informed judgment, not the precision of financial models, which is the key to selecting a specific ROE estimate. We affirmed this view in D.89-10-031, which established ROEs for GTE California, Inc. and Pacific Bell, noting that we continue to view the financial models with considerable skepticism.” The Commission then uses the term “informed judgment” eight times in respect of its own decision-taking. As a matter of interest the resulting ROE awards for 2006 were, for PG&E 11.35%; for SCE 11.60%; and for SDG&E 10.70%.

²⁵ NEB, RfD, TransCanada PipeLines Limited, RH-3-76, December 1976 page 4 – 13.

²⁶ NEB, RfD, Interprovincial Pipeline Limited, RH-2-76, December 1977, page 6 – 23.

²⁷ NEB, RH-2-76, op cit, page 6 – 26.

²⁸ NEB, RfD, TransCanada PipeLines Limited, RH-1-78, July 1978, page 5 – 9.

²⁹ Ibid.

³⁰ NEB, RfD, TransCanada PipeLines Limited, RH-4-81, Phase I, August 1981, pages 4 – 5 and 4 – 6.

³¹ NEB, RfD, TransCanada PipeLines Limited, RH-3-1982, July 1982, pages 3 – 10 to 3 – 12.

³² NEB, RfD, TransCanada PipeLines Limited RH-4-93, June 1994, page 27.

³³ BC Utilities Commission, Decision in the matter of Terasen et al, March 2, 2006, page 45.

³⁴ This statement is from an article by Dr. Jeff D. Makhholm in Public Utilities Fortnightly, May 15, 2003, pages 12-18, “In Defense of the ‘Gold Standard’”. The fuller context is as follows: “The fair rate of return became a hotly contested issue in the early 1970s...The DCF and CAPM methods got their start at this time and have survived nearly unchanged as the primary rate of return methods, with the DCF the virtual default method in practically all U.S. regulatory jurisdictions.” (Makhholm, page 14, column 1).

³⁵ OEB, op cit, page 8.

³⁶ BC Utilities Commission, Decision in the matter of Return on Common Equity, BC Gas Utility et al, June 10, 1994, see especially pages 17-18.

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- ³⁷ NEB, RfD, RH-2-94, TransCanada et al, Cost of Capital, March 1995.
- ³⁸ Manitoba Public Utilities Board Act, Order No.49/95, May 5, 1995 in an application by Centra Gas Manitoba Inc. The Manitoba Board in that decision reserved the right to require a full ROE hearing prior to the 1997 test year as a result of unusual or significant changes in the economy. However such a hearing did not take place. Centra Gas Manitoba was acquired by Manitoba Hydro, a provincial crown corporation, in 1999 and the ROE was subsequently replaced by a provision for a net income as part of Centra's costs, the allowed net income would not exceed the allowed return on equity under the Rate Base/Rate of Return methodology—see Manitoba Public Utilities Board Act, Order No. 103/05, July 12, 2005 in an Application by Centra Gas Manitoba Inc, page 40.
- ³⁹ OEB, Draft Guidelines on a Formula-Based Return on Common Equity for Regulated Utilities, March 1997 (not page numbered).
- ⁴⁰ OEB, Compendium, op cit, page 24, Section 5.1 Rationale for Draft Guidelines, Rationale for Adopting Formula ROE.
- ⁴¹ EUB, Decision 2004-052, op cit, pages 15-31, Section 4.2 ROE Methodology and 2004 ROE.
- ⁴² EUB, op cit, page 23.
- ⁴³ EUB, op.cit, Section 4.2.7 Other Measures of Comparable Investment, pages 24-30.
- ⁴⁴ The CE test was not the only one with which the EUB had difficulties. Thus, it is noted that the Alberta Board in Decision 2004-052, concluded "...that the results of the ERP tests other than CAPM would generally support a 2004 ROE above the Board's CAPM estimate, but that for the reasons set out above only limited weight should be placed on the results of the ERP tests other than CAPM." EUB op.cit. page 23.
- ⁴⁵ EUB, op cit, pages 31-32, Section 4.3 Annual Adjustment Mechanism.
- ⁴⁶ The Régie had previously applied the ERP approach but without an automatic adjustment feature, see for example Régie du Gaz Naturel, Décision D-96-31, 9 octobre 1996, Gaz Métropolitain, pages 69-70, La prime de risque du marché.
- ⁴⁷ Régie de l'énergie, Décision D-2007-116, Gaz Métropolitain, page 23.
- ⁴⁸ Ibid, pages 23-24.
- ⁴⁹ BC Utilities Commission, Decision in the matter of Terasen et al, March 2, 2006, op cit.
- ⁵⁰ NEB RfDs in TransCanada PipeLines Limited: Cost of Capital. RH-4-2001, June 2002; RH-R-1-2002, Review of RH-4-2001 February 2003; Cost of Capital. RH-2-2004 Phase II, April 2005. The RH-R-1-2002 decision was unsuccessfully appealed to the Federal Court of Appeal by TransCanada PipeLines (2004 FCA 149).
- ⁵¹ BC Utilities Commission, op cit, page 52. Note that, while intending to give primary weight to the application and results of the ERP method, the Commission stated that it would need to apply judgment to the evidence before it.
- ⁵² NEB RfD, TransCanada PipeLines Limited, RH-4-2001, pages 45-56.
- ⁵³ It may be noted that the EUB in Decision E99099, 1999/2000 Electric Tariff Applications, 25 November 1999 decided to "use both the traditional method and a modified ATWACC as tools to arrive at the fair return for (a number of electric utilities) with primary weight placed on the traditional method." (see page 328). The ATWACC evidence, which was accepted by the EUB with some modifications to its results, was submitted by the same witness (Dr.Vilbert) whose methodology and results were rejected by the NEB in RH-4-2001.
- ⁵⁴ NEB RfD, RH-R-1-2002, op cit, pages 11-12 Legal Obligation to use the FRS.
- ⁵⁵ NEB RfD, RH-2-2004, op.cit., page 19.
- ⁵⁶ Ibid.
- ⁵⁷ BCUC, Decision in Terasen et al, March 2, 2006, page 46.
- ⁵⁸ The degree of convergence as reflected in the annual ROE awards is remarkable. Thus, for year 2008 the range of ROEs is only about 50 basis points (bp) with La Régie at 8.91% (Gaz Métro) and the OEB at 8.39% and the EUB, NEB and the BCUC in the middle of the range with 8.75%, 8.71% and 8.62% respectively. Contrast this with the spread of 65 bp in the awards by one American regulator to three utilities for one year (footnote 25).
- ⁵⁹ The case is TransCanada's Canadian mainline. The negotiated settlement of March 2007 relates to the period 2007-2011 inclusive and provides that, during the Term, TransCanada will not pursue litigation of the NEB RH-2-94 ROE formula on behalf of... its Mainline System—see TransCanada PipeLines,

Application to the NEB, March 14, 2007: Application for Approval of a Negotiated Mainline Tolls Settlement and 2007 Mainline Tolls. Page 5 of 13, item 19. This Negotiated Settlement was approved by the NEB on 31 May 2007 by Order TG-06-2007.

⁶⁰ American regulators routinely cite their legal standard for fair return, essentially the Bluefield and Hope cases which are sometimes referred to also by Canadian regulators (examples: Alberta Board, NEB, see pages 11-12 above). The California Commission does so in the following terms in case D-05-12-043 (Test Year 2006 Return on Equity for the Major Energy Utilities) “The legal standard for setting the fair rate of return has been established by the United States Supreme Court in the Bluefield and Hope cases. The Bluefield decision states that a public utility is entitled to earn a return upon the value of its property employed for the convenience of the public and sets forth parameters to assess a reasonable return. Such return should be equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings attended by corresponding risks and uncertainties. That return should also be reasonably sufficient to assure confidence in the financial soundness of the utility, and adequate, under efficient management, to maintain and support its credit and to enable it to raise the money necessary for the proper discharge of its public duties. The Hope decision reinforces the Bluefield decision and emphasizes that such returns should be sufficient to cover operating expenses and capital costs of the business. The capital cost of business includes debt service and stock dividends. The return should also be commensurate with returns available on alternative investments of comparable risks.

⁶¹ A sampling of relatively recent cases finds that the California Commission received and used DCF, CAPM and MRP evidence in case D-05-12-043 (see footnote 24), the Illinois Commerce Commission accepted DCF and CAPM evidence in a September 2005, once-in-a-decade decision on Northern Illinois Gas Company’s rates; the New York Public Service Commission (NYPSC) received CAPM, CE, DCF and ERP evidence, found CE and ERP not to be particularly useful, and gave a 50/50 weighting to CAPM and DCF in a 2007 National Fuel Gas rate case (Case 07-G-0141).

⁶² See above, text page 15 and footnote 34.

⁶³ NEB, Letter Decision, RH-2-95, December 1995. The TransCanada settlement covered the period 1 January 1996 through 31 December 1999.

⁶⁴ NEB, RfD, Westcoast Energy Inc., RH-2-97, Part II, August 1997. The Westcoast settlement covered the period 1 January 1997 through December 31, 2001.

⁶⁵ NEB, Compilation of Key Documents Related to the Board’s RH-2-95 Decisions, TransCanada, June 1996, page 19, sub Article 1, item 1.2, v).

⁶⁶ NEB, RH-2-97, op cit, page 1, sub Article 1, item 1.2, (f).

⁶⁷ EUB, Decision 2005-057, NOVA Gas Transmission Ltd., 2005-2007 Revenue Requirement Settlement, July 7, 2005, see page 2 thereof.

⁶⁸ BCUC Order G-51-03 of 29 July 2003 for the initial term.

⁶⁹ BCUC Order G-33-07 of 23 March 2007 for the extension.

⁷⁰ “TransCanada PipeLines. Annual Report, 1996. Letter to Shareholders, page 4, final paragraph.

⁷¹ Supra, page 9.

⁷² Makhholm, Jeff D., op cit, page 18, column 1.

⁷³ CPUC, D-05-12-043 on Test Year 2006 Return on Equity for the major energy utilities, Findings of Fact, paragraph 16.

⁷⁴ It is acknowledged that the Canadian “0.75 ratio” to forecasted changes in long Canadas has this effect.

⁷⁵ National Economic Research Associates (NERA). Allowed Return on (Gas Utility) Equity in Canada and the United States: An Economic, Financial and Institutional Analysis. Ken Gordon, Jeff Makhholm, Wayne Olsen, November 2007. Tax differences are dealt with on page 13, business risk on pages 24-25 and regulatory risk on pages 25-32.

⁷⁶ Concentric Energy Advisors concluded for the OEB that “(6) On the whole, there are no evident fundamental differences in the business and operating risks facing Ontario utilities as compared to those facing U.S. companies or other provinces’ utilities that would explain the difference in ROEs.” See Concentric op. cit., Section VII Conclusions and Summary of Findings, paragraph (6) on page 57.

⁷⁷ *Alliance Pipeline Ltd* (Alliance) filed on 31 October 2007 its normal annual toll revisions to become effective 1 January 2008 The NEB filing ID is A16816. Alliance noted that the filed-for tolls reflect a base return on equity of 12%, subject to an incentive adjustment, on a deemed capital structure that provides for 30% equity. These are the same numbers as appeared in Alliance’s original certificate application to the

NEB which was approved in November 1998 in GH-3-97. At the time of writing, Alliance's 2008 tolls are still interim.

Emera Brunswick Pipeline Company Ltd. reached a negotiated agreement for a monthly fixed toll that would cover all fixed charges including an equity return typically in the 11 to 14 percent range. NEB RfD *Emera Brunswick Pipeline Company Ltd.*, GH-1-2006, May 2007, Section 7.1 Tolls and Tariffs, page 76 *Mackenzie Valley Gas Pipeline*, Section 3.1 of the August 2004 application in GH-1-2004 which is still under consideration presents toll principles that include a deemed capital structure based on 30% equity and an ROE equal to the NEB multi-pipeline ROE plus 2.21% for the initial 10 years, see page 3-4 *Maritimes and Northeast Pipeline* filed on 28 December 2007 a negotiated toll settlement for the calendar year 2008 which embodies an allowed ROE of 11.66 per cent on a deemed equity of 31.18%. NEB filing ID A17299.

⁷⁸ The seminal NEB decision in TransCanada's first rate application, RH-1-70 of December 1971 contains some important language relating to both points.

First, as to mechanistic approaches, the Board stated at page 6 – 6 “The final conclusion as to what is enough but not too much in the way of return, and rate of return, is not precisely supportable on a mathematical basis. If it were, one computer and a few programmers could replace all the regulatory boards in North America and dispense undeniable justice instantaneously.”

Second, as to the exercise of judgment, the Board said at pages 6 – 2 and 6 – 3 that “Many tests and techniques for assisting the process of reaching a just decision have been used, but no single test is conclusive nor is any group of them definitive: whatever tests may be used, in the last analysis the adjudicating body can not escape the responsibility of exercising judgment as to what, in a stated set of circumstances, is a just and reasonable return or rate of return, or what is a range of justness and reasonableness of return or rate of return.” These early comments by the NEB in a sense echo the view expressed by the SCC in *Lamont* where, in 1929 S.C.R., at page 199, the Court stated “The question of a fair rate of return on a risky investment is largely a matter of opinion, and is hardly capable of being reduced to certainty by evidence, and appears to be on one of the things entrusted by the statute to the judgment of the Board.”

⁷⁹ Note that, in applying its automatic mechanism to adjust the rate of return on common equity, the BCUC initially advised the affected companies that it had “...reviewed the performance of the automatic mechanism to adjust the rate of return...and has determined that the mechanism has performed favourably.” (Letters L-61-96, December 2, 1996; L-73-97 of December 2, 1997; L-89-98 of December 4, 1998). After 1998, however, the references to review and to favourable performance were dropped and the annual notification letters now simply state that “...the Commission has determined that the current ROE automatic adjustment mechanism results in an allowed return of...” (example: Letter L-93-07 of November 22, 2007). Essentially the same approach is followed by the EUB (Example: Order U2007-347 of 30 November 2007) and NEB (Example: Letter of 29 November 2007, File OF-TollsGen-RRCE 02).

⁸⁰ EUB Decision 2004-052, July 2, 2004, page 34.

⁸¹ CGA op cit, Section 3: Maintaining a Fair Return, pages 14-17.

⁸² NERA, op cit, particularly pages 7 – 11.

⁸³ Note that the EUB, in giving its reasons for establishing a standardized approach for setting an ROE, stated “An applicant is also free to apply to the Board to review the ROE formula in the manner provided for in this Decision. Even without an application by a particular party, the ROE formula will be subject to review in certain circumstances and in any event will be considered for review after five years.” See EUB, Decision 2004-052, op.cit., page 8.

⁸⁴ A scan of Bank of Canada published comments for the past few years points to the following as rate-affecting monetary policy factors: economic growth; utilization of economic capacity; demand on the economy, domestic and export; inflation rates and inflation risks; U.S. economy and major sectors; global economy and major components EU, Japan, China; global markets, including commodity markets (e.g. energy), and their balances; Canada/USA exchange rates and the influence on the Canadian economy; cost of credit to firms and households; state of financial markets, Canada and abroad. These notes are based mainly on reading the Bank of Canada's semi-annual Monetary Report and Update available online at http://www.bank-banque-canada.ca/en/mpr/mpr_previous.html.

⁸⁵ Concentric Energy Advisors. A Comparative Analysis of Return on Equity of Natural Gas Utilities. Prepared for the OEB. June 14, 2007, pages 18-19. Concentric correctly point out that, “...as interest rates

have declined dramatically in Canada in the past ten years, one would expect the OEB formula to yield accordingly lower authorized ROEs. The formula, however, is symmetrical, and ROEs will most likely recover at a faster rate in Ontario than in the U.S., when interest rates begin to rise. In fact, if interest rates continue to steadily rise, the OEB adjustment formula could surpass and yield higher results than historical data suggest U.S. authorized returns would reach under the same circumstances.”

⁸⁶ Ibid, page 57, last sentence in item 5.

⁸⁷ NEB, Rfd, RH-4-2001, heading Regulatory Precedent, at page 43.

⁸⁸ Régie de l'énergie. Décision D-2007-116., pages 23-24.

⁸⁹ The example has already been given of the 17 December 2007 application to the NEB by Gazoduc Trans-Québec et Maritimes for cost of capital determination for the years 2007 and 2008. See footnote 3, which also notes the lengthy hearing process which this application may involve, extending over about a 13-month period.