NEWFOUNDLAND POWER

PREPARED TESTIMONY

of

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I. INTRODUCTION AND SUMMARY OF CONCLUSIONS

Introduction

My name is Kathleen C. McShane and my business address is 4550 Montgomery Avenue, Suite 350N, Bethesda, Maryland 20814. I am a Senior Vice President of Foster Associates, Inc., an economic consulting firm. I hold a Masters in Business Administration with a concentration in Finance from the University of Florida (1980) and am a Chartered Financial Analyst (1989). My professional experience is detailed in Appendix A to this Exhibit.

Purpose of Testimony

I have been asked by Newfoundland Power to:

(a) Evaluate the reasonableness of the Company's proposed capital structure;

(b) Recommend a return on equity for 2003 which will serve as a benchmark for Newfoundland Power; and,

(c) Assess the Company's proposed amendment to the automatic adjustment formula used to reset subsequent years' allowed ROEs.

Summary of Conclusions

My conclusions are as follows:

- Newfoundland Power's proposed capital structure is reasonable in light of its business risk profile and warranted to maintain a debt rating of A.

- There have been significant changes in the structure of the market for long Canada bonds which warrant a recalibration of the benchmark return on equity;

- Changes in the Government of Canada bond market and evidence from other tests for estimating a fair return indicate that the currently allowed ROE understates a reasonable allowed return on equity;

- The recalibration of a benchmark ROE for Newfoundland Power should consider the results of each of the principal tests which have traditionally been used to estimate a fair return, recognizing that each is based on different premises, and each has its own strengths and weaknesses;

The test results are as follows:

Equity Risk Premium	10.5-11.25%
Discounted Cash Flow	12%
Comparable Earnings	12.75-13.25%

- In the current capital market environment, a reasonable benchmark return on equity, which would apply to an average risk Canadian utility like Newfoundland Power, is no less than 11.5% if the equity risk premium test is given preponderant weight. In my opinion, weight should be given to all three tests – risk premium, discounted cash flow and comparable earnings – which leads to a recommended return on equity for Newfoundland Power of 11.5-12.0%.

- I recommend that the Board approve the Company's proposed amendment to the ROE automatic adjustment formula. That amendment would entail switching from actual bond yields to the consensus forecast as the basis of the subsequent year's allowed ROE.

II. CAPITAL STRUCTURE

In P.U. 16, the PUB concluded that "in order to maintain an 'A' rating and appropriate access to the capital markets, as a small utility, NLP will require a stable and strong capital structure" (p. 58). For regulatory purposes, the PUB capped Newfoundland Power's common equity ratio at 45%, with actual common equity in excess of 45% to be treated as preferred shares. In my opinion, there is no reason for the PUB to depart from this conclusion.

First, Newfoundland Power is still a relatively small utility. Newfoundland Power's total assets at year-end 2001 were $665 million, with common equity of $260 million. By comparison, Nova Scotia Power had $2.9 billion in assets and $977 million in common equity.

On a stand-alone basis, were its stock publicly-traded, Newfoundland Power would be considered "small cap" in the context of both the Canadian and U.S. equity markets. Small utilities require more conservative capital structures than large utilities, all other things equal, to achieve equivalent debt ratings.

Second, there have been no material changes in Newfoundland Power's business risk profile since 1998.

With respect to economic growth and demographic trends:

- Similar to 1998, the recent forecasts for the Province anticipate that real GDP growth will outpace that of the country as a whole in the near term. For 2002 and 2003, the August 2002 Consensus Economics, *Consensus Forecasts* anticipates real GDP growth

rates for Canada of 3.5% and 3.7% respectively. For Newfoundland, the forecast growth rates are approximately 6.25% and 5% for 2002 and 2003 respectively.[1]

- However, the strong near-term growth rates are expected to decline fairly rapidly. Between 2003 and 2006, the Conference Board of Canada's July 2002 forecast expects the annual rate of real GDP growth in Newfoundland to average 2.9%. By comparison, its forecast anticipates annual growth for Canada as a whole over the same period to average 3.6%.

- The relatively high near-term growth forecasts for Newfoundland are premised on the contributions of the Hibernia, Terra Nova and recently approved White Rose off-shore oil projects and the Voisey's Bay nickel development. As in 1998, the growth rates tend to overstate the true impact on the Provincial economy, as the receipt of royalty payments by the Provincial government from these ventures will be offset by reductions in federal transfer payments.

- Subsequent to 2007, the Conference Board anticipates a steep drop-off in growth rates, to 0.3% per year from 2007-2020 (*Provincial Outlook*, Spring 2002), considerably below the longer-term forecast for Canada of 2.7%.

[1] Based on a survey of forecasts compiled by the Provincial Government and published at www.economics.gov.nf.ca/frcstGDP.

- The low growth rates subsequent to 2007 primarily reflect the combined effect of a decline in output from offshore oil over the longer-term and a continued decline in Provincial population.

- With the expected decline in oil production, the contribution of the mining industry[2] to real GDP in the Province is expected to decline from a 2005 peak of 23% to 15% by 2020.

- Service-producing industries – which account for the preponderance of Newfoundland Power's general service load – are expected to experience real growth of 1.7% from 2001-2007, and then slow to an average rate of growth of 0.8% through 2020. The corresponding growth rates for Canada are 3.0 % and 2.3%.

- With respect to population, it is expected to continue to fall, as a result of out-migration, an aging population and low fertility rates. The Provincial Government has projected a decline in population in the range of 0.1% to 0.5% per year with a "medium scenario" of 0.3% per year from 2001 through 2016.[3] The Conference Board projects a somewhat higher annual decline of 0.7%. The decline in population is expected to be highest in the age categories which form the basis for future customer growth.

A declining population translates into relatively low growth in consumer spending and housing starts. Over the 2001-2020 period, the Conference Board expects growth in consumer spending in Newfoundland to average 3.1% versus a national

[2] The mining industry includes both mineral fuels, e.g., oil and gas, and metal mining.
[3] Government of Newfoundland and Labrador, "Demographic Change: Newfoundland & Labrador Issues and Implications", April 2002.

average of 4.3%. Housing starts are expected to decline by 7.8% annually between 2001-2020 (1550 in 2001 to 304 in 2020).

- Growth in personal disposable income represents an additional measure which is reflective of the growth potential in Newfoundland Power's service area. Personal disposable income, i.e. the income left after personal taxes have been paid, is the amount available for consumer spending and saving.

Disposable income growth in Newfoundland is expected to be relatively robust from 2001-2007, compared to the last half of the 1990s (3.6% versus 2.4% from 1995-2000), but will lag that of Canada as a whole (4.5%). Over the longer term, disposable income growth in Newfoundland is expected to lag that of Canada by a much greater margin, 2.5% versus 4.1% from 2007-2020.

- The demographic trends are expected to translate into a continuation of the relatively low growth in sales in Newfoundland Power's service area, in the longer-term. While near-term growth is projected to be relatively strong, longer-term growth is anticipated to be similar to the levels Newfoundland Power experienced over the past decade. From 1992-2001, annual growth in sales has averaged just over 1%. To provide some perspective, growth in electricity sales nationwide averaged 2.9% annually from 1993-2000,[4] compared to 0.9% for Newfoundland Power.

- Within the Province, there has been a shift in population from rural to urban areas, which is expected to continue. The resulting strong growth in the St. John's area has been largely at the expense of the

[4] Dominion Bond Rating Service, "The Canadian Electricity Industry", November 2001.

more rural areas of Newfoundland. Continued outmigration from the rural areas served by Newfoundland Power is expected to continue in large part due to the unlikelihood of a turnaround in the cod fishery. From the perspective of Newfoundland Power, customer migration within the service area entails building new facilities whose cost must be recovered along with the cost of maintaining existing facilities that have already been constructed for use by the same customers. Since Newfoundland Power competes with oil for market share, particularly for space heating and water heating, the lack of significant increases in load to bear the higher system costs will tend to create competitive pressures.

The regulatory framework, which is a key element of a utility's business risk, has not been altered in any material way since 1998. *The Electricity Policy Review*, issued by the Government in March 2002, identified a number of issues facing the industry as currently structured in Newfoundland. In that review, Government expressed support for a "Composite" industry model which, if implemented, would unbundle the various utility functions and transfer control of certain network assets to an Independent System Operator. In my view, at this juncture, any changes to the regulatory model which might result are too speculative to have altered investors' perceptions of Newfoundland Power's business risk profile.

Third, with the capital structures maintained by Newfoundland Power since P.U. 16 was issued, its debt ratings have remained in the A category. (From 1998-2001, Newfoundland Power's year-end common equity ratios have ranged from 43% to 45%, with an average of 44%).

- An investment grade debt rating of A is a reasonable objective for a utility to assure capital market access under most capital market conditions. As indicated by P.U. 16, the PUB has historically recognized the importance of Newfoundland Power maintaining a strong credit rating.

- Newfoundland Power's Dominion Bond Rating Service (DBRS) debt rating has not changed from A (with a Stable trend) since P.U. 16.

- Subsequent to P.U. 16, the Canadian Bond Rating Service (CBRS) downgraded Newfoundland Power's First Mortgage Bonds to A-, and cited, among other issues,

> "The adoption of an automatic adjustment mechanism for setting annual rates of return on common equity in future years (1998-2001) will consistently grant Newfoundland Power a regulated ROE measuring below the industry norms." "CBRS Credit News", October 2, 1998.

When Standard & Poor's combined its operations with those of CBRS it undertook a harmonization of the ratings of all Canadian utilities to the S&P global ratings scale. S&P assigned an A rating to Newfoundland Power's First Mortgage Bonds, and a corporate credit rating of A-.

- S&P has issued quantitative debt rating guidelines for four key financial measures. These guidelines, used in conjunction with a business risk profile score, provide targets for capital structure and interest coverage ratios for different debt ratings.

S&P's business risk profile scores range from "1" to "10", with "1" being the least risky. Based on my analysis of Newfoundland Power's business risk profile and the scores assigned to Canadian utilities to date, Newfoundland Power's score, on a stand-alone basis, would most likely be no less than "3".[5]

The S&P financial guidelines for an A rating for a company with a "3" business risk profile score, in conjunction with Newfoundland Power's corresponding 1998-2001 average values, are as follows:

Table 1

	S&P GUIDELINES	NEWFOUNDLAND POWER (1998-2001)
Debt Ratio	47.5-53.0%	55%
Pre-tax Interest Coverage	2.8-3.4 X	2.4 X
Funds From Operations/Total Debt	20-26%	19.8%
Funds From Operations Interest Coverage	3.1-3.9 X	3.1 X

Sources: Standard & Poor's "Utilities & Perspectives", July 21, 1999; Standard & Poor's "CreditStats: Canadian Electric Utilities", August 2002.

Table 1 indicates that, (at an average 1998-2001 ROE, as reported by S&P, of 10.4%), Newfoundland Power's debt ratio has been above the upper end of the guideline range appropriate for a business risk profile score of "3". For the other guideline items, Newfoundland Power's statistics have been at or below the lower end of the target range. Consequently, the 45% cap on the

[5] Scores assigned to date include TransCanada PipeLines, "2"; Enbridge Gas Distribution, "2"; HydroOne, "3"; and Nova Scotia Power, "4".

common equity ratio approved by the PUB in 1998 should be viewed as the lower end of the range compatible with an A rating.

In summary, there have been no changes in circumstances which would warrant a departure from the Board's decision in P.U. 16 regarding capital structure. Newfoundland Power has forecast a common equity ratio of 44% for 2003 and 44.5% for 2004, which lie slightly below the 45% cap set in P.U. 16. In my opinion, the forecast actual capital structures are reasonable and should be utilized for ratemaking purposes.

With a common equity ratio close to 45%, Newfoundland Power would be viewed by investors as of approximately average investment risk relative to the spectrum of investor-owned electric and gas utilities in Canada.

III. P.U. 16 AND THE APPROVED RETURNS ON EQUITY FOR NEWFOUNDLAND POWER

In July 1998, the PUB issued Order P.U. 16 (1998-99) which set the allowed return on equity for Newfoundland Power at 9.25%. In arriving at its decision the PUB stated,

> "The Board will rely principally on the equity risk premium test in establishing the appropriate return on common equity. In so doing, the Board will make an explicit determination with respect to the long term interest rate and the appropriate risk premium for NLP, in order to establish an appropriate rate of return on equity." (page 97).

The 9.25% ROE was premised on a long Canada yield of 5.75%, for an equity risk premium of 3.5%. The 3.5% risk premium was predicated on a market risk premium of 5.0%, a relative risk adjustment of 0.60 and a financing flexibility adjustment of 0.5%.

The PUB also implemented an automatic adjustment formula for the ROE which would, in 2000-2002, recalibrate the ROE. Specifically, the ROE in each of the years 2000-2002 would be determined as follows:

(a) The average of the closing yields on long-term Canadas for ten trading days (last five trading days in October and first five trading days in November) would be adopted as the forecast long Canada yield for the subsequent year.

(b) The forecast long term Canada yield for the next year would be subtracted from the current year's forecast value and multiplied by 0.20. The resulting value would be used to adjust the risk premium

in the opposite direction of the change in the long-term Canada yield.

(c) The forecast long Canada yield would then be added to the adjusted risk premium to arrive at the approved ROE.

Further, the PUB concluded that after the "rate of return on rate base has been set for three consecutive years, by application of the formula, and without a hearing, that a hearing will be convened in the following year." (page 106).

With Order P.U. 16, the PUB joined the ranks of a number of key regulators who have approved what are effectively "benchmark" ROEs and automatic adjustment formulas based primarily on the equity risk premium approach. The first of these benchmark returns and formulae were adopted in 1994-95 (British Columbia Utilities Commission and National Energy Board), followed by the Public Utilities Board of Manitoba (1995), the Ontario Energy Board (1997), the PUB (1998) and the Régie de l'Energie (1999).

The issuance of P.U. 16 and the implementation of the automatic adjustment mechanism have resulted in the following calculated returns on equity (in conjunction with the corresponding yield on long-term Canada bonds):

Table 2

YEAR	ROE	LONG-TERM CANADA BOND YIELD
1999	9.25%	5.75%
2000	9.59%	6.18%
2001	9.25%	5.75%
2002	9.05%	5.50%

With the adoption of benchmark ROEs and automatic adjustment mechanisms, allowed ROEs in Canada have declined from slightly in excess of 12% in 1995 to 9.5% in 2002. The 2002 formula-based ROE for Newfoundland Power, at 9.05%, is the lowest in the country.

In my opinion, returns in the range of 9.0-9.5% for utilities of average risk understate a fair return. In the first place, the significant changes in the fundamental structure of the market for long Canada bonds that have occurred since the formula approach was originally adopted call into question the validity of the formulas' results. In addition, the application of other tests that had traditionally been utilized to establish a fair return on equity (comparable earnings and discounted cash flow) provide support for the conclusion that the allowed ROEs since 1999 have understated a fair return on equity.

IV. REVIEW OF ECONOMIC AND CAPITAL MARKET CONDITIONS PRIOR TO P.U. 16

At the beginning of 1998, the Canadian economy and capital markets were continuing to undergo significant structural changes which had their genesis early in the decade with the Federal Government's commitment to low inflation and fiscal restraint. By the beginning of 1998, the Federal Government had begun to get its financial house in order; Canada's net debt/GDP ratio had reached its highest level in 1996 (over 70%), and was starting to decline. Long Canada bond yields had experienced a decline of approximately 350 basis points between the end of 1994 and the first quarter of 1998 (from approximately 9.25% to 5.75%); that decline had been in large part a function of the Government's decision to maintain the competitiveness of Canadian exports following the passage of the Free Trade Agreement (1989) at the expense of the Canadian dollar, rather than an improvement in the Government's fiscal position. Between the beginning of the decade and the first quarter of 1998, the Canadian dollar had declined from U.S. $0.89 (November 1991 peak) to U.S. $0.70.

As the Canadian dollar declined, the relationship between Canadian and U.S. interest rates shifted dramatically. From a 220 basis point positive spread in 1990, the yields on 10-year Canadas were 20 basis points below 10-year U.S. Treasuries in the first quarter of 1998. Similarly, the spread between 30-year Canadas and 30-year U.S. Treasuries had declined from 200 basis points in 1990 to just 10 basis points in the first quarter of 1998 (Schedule 1).

The declining spread was accompanied by a decline in real bond yields, reflecting investors' increasing confidence that the Government's efforts to reduce the debt burden would be successful and that inflation would not

reignite. From late 1994 to late 1997, the incremental risk premium investors in Government of Canada bonds were demanding for fear of unanticipated inflation ("lock-in" premium) had declined from as much as two percent to nil.[6]

In the corporate bond sector, spreads between long Government bonds and utility bonds were at historically low levels in early 1998, reflecting the demand for relatively high quality securities. To put this in perspective, from 1990-1997, the average spread between seasoned A-rated utility bonds (as represented by the CBRS utility bonds index)[7] and 30-year Canada bonds was 97 basis points; in the first quarter of 1998, the spread averaged just over 49 basis points (Schedule 1).

In the equity markets, the TSE 300 had just completed eight years of mediocre performance (9.7% annual compound return for 1990-1997 compared to over 16.5% for the S&P 500). Over the same period, government bond returns outpaced the equity market returns by a significant margin, averaging 13.3% from 1990-1997. The level of bond returns rose as a result of declining bond yields, which produced large capital gains. The experience of 1990-1997 squeezed the achieved Canadian risk premiums by over 1.5 percentage points; the historic risk premium declined from a 1947-1989 average of 7.6% (6.8%) to a 1947-1997 average of 5.9% (5.2%), based on arithmetic (geometric) averages.

At the time of P.U. 16, Canadian market data were the primary focus of the return on equity determination. The issue of globalization of capital markets had been raised, but the shift from largely domestic investments

[6] The disappearance of the "lock-in" premium was an indication of a reduction in the perceived riskiness of Government of Canada bonds and a widening of the market equity risk premium. In early 1998, the disappearance of the "lock-in" premium was still a relatively recent phenomenon.
[7] Discontinued in September 2000.

to a mix of domestic/foreign investments was evolutionary, and largely overlooked in cost of capital determinations. In early 1998, the cap on foreign investments in both Registered Retirement Savings Plans (RRSPs), which represent a key equity investment vehicle for the typical Canadian investor, and pension plans stood at 20%. The Investment Funds Institute of Canada (IFIC) reported in its *Year 2000 in Review* report of mutual fund industry statistics that the proportion of all Canadian mutual fund assets (including money market assets, but excluding the foreign portion of balanced funds) invested in foreign securities was approximately 17% in 1990; in early 1998 that proportion had increased to 27%. Despite the increasing exposure of Canadian investors to foreign equity markets, the returns available from those markets – particularly from the broader U.S. market – appeared to have been accorded little or no weight in the assessment of the market risk premium.

At the same time, the outlook for Canadian industrial returns was uncertain. During a protracted period of recession and restructuring which had stretched through most of the first half of the decade (average GDP growth of 1.6% from 1990-1996), the earned returns of Canadian industrials had fallen well below levels experienced during the 1980s.

As a result, the factors that may have led to the determination of allowed returns that were low by historic standards need to be reevaluated, particularly in light of subsequent events. Moreover, those events point to material changes in the relationships that existed between government bond yields and equity return requirements since P.U. 16 was issued. These changes underscore the potentially anomalous results that can arise when relying on a single variable – long government bond yields – to track changes in the fair return on equity for a utility.

V. IMPLICATIONS OF CAPITAL MARKET CONDITIONS ON ALLOWED RETURN ON EQUITY IN P.U. 16

The factors summarized in Section IV raise two issues:

(1) What were the factors which led to the focus on the equity risk premium test as the principal methodology for setting the benchmark return? and,

(2) What were the factors which were key to the determination of the level of the equity risk premium?

Historically, Canadian regulators considered three types of tests (with varying weights accorded to the results) in determining allowed returns: comparable earnings, discounted cash flow and equity risk premium, with the latter comprising a number of variants, including the Capital Asset Price Model (CAPM).

By the mid-1990s, a number of Canadian regulators were seeking to streamline the process of setting allowed returns, given the time (and cost) required to revisit the issue on an annual basis. In arriving at a methodology that would serve the dual purposes of setting a benchmark return and for implementing an automatic adjustment mechanism for subsequent changes to the benchmark return, regulators were generally concerned with:

(1) The perceived reliability of the available data in assessing the level of the forward-looking benchmark return on equity; and,

(2) The availability of an objective measure of subsequent changes in the level of the required equity return.

With respect to the first concern, the application of the comparable earnings test, to which the PUB had historically given significant weight, had become problematic. Two factors were key to regulators discounting the results of the comparable earnings test at that time.

(1) The sharp decline in inflation in 1992 (from an average of 4.7% over the period 1983-1991 to an average of 1.5% in 1992-1997) cast considerable doubt on the relevance of pre-1991 returns on equity to a future business cycle.

(2) The level of returns on equity for low risk industrial firms between 1990-1994 reflected the impact of a prolonged recession and restructuring period. Similar to the returns achieved during a relatively high inflation environment, the relationship between the "recession/restructuring" period returns and future achievable returns was viewed as dubious.

Related factors led Canadian regulators to disregard the discounted cash flow test. The discounted cash flow model requires estimates of investor expectations of future growth in conjunction with prevailing dividend yields. With the protracted decline in earnings, and concurrent lack of growth (or reductions) in dividends, historic growth rates for industrial firms provided no insight into investor expectations for future growth rates.

In contrast to the U.S., there was a dearth of direct measures of investor growth expectations for publicly-traded Canadian firms, as embodied in

consensus forecasts of long-term earnings growth as made by investment analysts.[8] In the absence of such estimates, the DCF model could not be reliably applied to either industrials or utilities.

The risk premium test was effectively the only remaining choice for Canadian regulators. As a result, its initial adoption by Canadian regulators as virtually the sole basis for setting a benchmark return and for designing an automatic adjustment mechanism was not unreasonable. The risk premium test provided an objective (observable) means of not only establishing a point of departure, i.e., the long Canada yield, but also for estimating subsequent changes in the equity return requirement.

Further, with the preponderance of regulators relying on a similar approach, each regulatory Board could be relatively confident that the returns of utilities under their jurisdiction would not deviate significantly from those adopted elsewhere in the country.

With respect to the level of the initial benchmark returns, the capital market environment which led up to P.U. 16 sheds light on the relatively low levels of risk premiums which have been allowed:

[8] These forecasts are, and have been, standard inputs to DCF models for both industrials and utilities in the U.S.

(1) When the automatic adjustment formulas were first introduced in 1994-95, long term Government of Canada bond yields contained a significant premium for unanticipated inflation, which reduced the differential between expected equity market returns and Government bond yields (i.e., the market equity risk premium). The contraction in the market equity risk premium appears to have been reflected in the magnitude of the market equity risk premium established in the seminal ROE/automatic adjustment formula decisions (1994-95 BCUC and NEB, page 4). By 1998, however, the perceived riskiness of Government of Canada bonds had declined, as evidenced in the disappearance of any additional premium for unanticipated inflation in the then prevailing yields. The resulting expansion of the market equity risk premium does not appear to have been recognized in P.U. 16.[9]

(2) The historically low utility/long Canada bond yield spreads prevailing in early 1998 implied relatively low utility equity risk premiums.

(3) The reduction in the achieved Canadian market risk premium resulting from the mediocre performance of the TSE 300 in combination with the impact of falling long Canada yields (i.e., high returns on bonds) may have been interpreted as a reduction in the required risk premium.

(4) As the transition to a global capital market had yet to be fully appreciated, the determination of the benchmark return gave little

[9] The benchmark return set by the NEB in 1995 (RH-2-94) was premised on a market risk premium of 4.75%. The operation of the NEB's automatic adjustment formula implies a market risk premium in excess of 6.0% at a long Canada yield of 5.75%. By comparison, in P.U. 16, the PUB concluded that the market risk premium at a long Canada yield of 5.75% was 5.0%.

weight to the alternative investment opportunities outside the Canadian market.

(5) The mediocre performance of the Canadian equity market relative to that of utilities – whose returns had been positively impacted by the decline in interest rates – may have been perceived as an indication that utility investors were being overcompensated.

(6) The implications of the decline in the Canadian dollar which had accompanied the decline in interest rates during much of the 1990s were not explored in the context of the impact on equity market returns.

VI. CHANGES IN CAPITAL MARKETS SINCE P.U. 16

Bond Markets

Immediately following the issuance of P.U. 16, in August 1998, a global market crisis erupted. The crisis was triggered by a recession in Southeast Asia and a fall in commodity prices world-wide. This, in turn, precipitated a collapse in the Russian economy. The crisis then spread to Latin America as investors began liquidating riskier securities and scrambling into safe havens, primarily U.S. Treasury bonds.

In the Canadian market, as the global turmoil took root, the Bank of Canada opted not to increase interest rates to stem the accelerating weakness in the currency, letting the dollar decline in late August 1998 to U.S. $0.63 for the first time in modern history. Ultimately, the Bank of Canada stepped in to stem the decline of the Canadian dollar, by raising interest rates. As investors scurried into safer government securities, the spreads between utility and government bond yields rose. Between July and September 1998, the spread between 30-year A-rated Canadian utility bond yields and long Canadas rose by 60 basis points.[10]

[10] The 30-year A-rated utility/Government of Canada bond yield spread, which had been 67 basis points in the first quarter of 1998, and 60 basis points in July 1998, was 120 basis points by September 1998.

Although the Bank's efforts forestalled further declines in the currency at the time, the Canadian dollar has remained, since mid-1998, at levels well below that estimated to equate to purchasing power parity with the U.S. dollar, i.e., no less than approximately U.S. $0.70-0.72. In effect, as the Bank of Canada generally followed the Federal Reserve's lead in monetary policy decisions, first in reducing short-term interest rates in late 1998 as the global crisis eased, and subsequently in raising rates in late 1999 to avoid overheating of the economy and to prevent further weakening of the Canadian dollar, relatively close parity of U.S./Canadian long-government bonds yields was maintained, but not without cost. Between early 1998 and today, the Canadian dollar has given up a further 10% of its value relative to the U.S. dollar. With purchasing power parity between the Canadian dollar and the U.S. dollar estimated at no less than U.S. $0.70-0.72, and the Canadian dollar trading between U.S. $0.63 and $0.69 since August 1998, long Canada yields are well below the level that would be compatible with maintaining a degree of purchasing power equivalent to early 1997 levels.[11]

In addition, as the finances of the Canadian government continued to improve, the Federal government, which had, in 1997-98, achieved its first budget surplus in 28 years, followed up with surpluses in each of the three successive fiscal years. (A fifth consecutive surplus is expected for 2001-2002.) The entire 2000-2001 surplus was applied to debt reduction. The improved fiscal picture led to the expectation that the supply of long-term Government of Canada bonds would dwindle, which put downward pressure on government bond yields.

[11] *The International Bank Credit Analyst* (November 2000) noted:

> "The low level of Canadian bond yields is prompting foreigners to repatriate funds when bond issues are redeemed. Net bond outflows have amounted to C$8.5 billion over the past year. These outflows could very well continue because Canadian bond yields will likely remain close to U.S. levels."

The Bank of Canada *Monetary Policy Report* (May 2000) noted that ,

> "decreases in government borrowing requirements have been an important reason for the decline in bond yields. Government bond markets in both Canada and the United States have been affected by actual and anticipated reductions in long-term government debt. This has resulted in thin markets, especially for the 30-year maturities, with occasional unusual price movements. The Government of Canada yield curve has developed a hump, with yields on maturities at 3- to 10-years above the 30-year yield. In the United States, the Treasury yield curve has inverted since November, and now has a negative slope. In contrast, the yield curve for Canadian corporate bonds, which has been less affected by unusual supply factors, and which is indicative of the cost of borrowing in the private sector, has a normal positive slope".

The Bank of Canada's November 2000 *Monetary Policy Report* reiterated this conclusion, although it noted that the inversion of the government bond yield curve was slightly less pronounced than at the time of the May Report.

The spread between 10- and 30-year Canada bond yields has since reverted to positive territory, with the yield curve steepening, as the Bank of Canada cut interest rates (a total of nine times in 2001) to help prop up a then flagging economy. Nevertheless, there remains evidence that the long end of the Government of Canada bond term structure has continued to comprise a scarcity premium.

From September 2001 through August 2002, a period characterized by a sharply upward sloping yield curve, the average spread between 2- and 10-year Canadas was approximately 180 basis points.[12] The corresponding spread between 10- and 30-year Canadas averaged 34 basis points, close to the historic average of 30 basis points, but below the 55 basis point average for periods when the spread between 2- and 10-year Canadas exceeded 150 basis points.[13]

In the corporate bond market, there has been a significant rise in spreads between utility bonds and long Canada bonds since early 1998. The increase in spreads can be traced to a number of events that have occurred since P.U. 16 – the scarcity premium discussed above, flights to quality in the face of the global market crisis of 1998, and the later crisis of confidence in corporate America, as well as a widespread economic downturn from which global recovery is not yet assured, particularly in the U.S.

The spread between 30-year Canadian A-rated utility bonds and 30-year Canadas, which was 60 basis points (6.3% vs. 5.7%) in the first half of 1998, has averaged approximately 140 basis points since the August 1998 global market crisis and close to 150 basis points over the past two years (from September 2000-August 2002). At the end of August 2002, the spread was 170 basis points.

[12] Over the entire June 1982-August 2002 period for which comparative historic data are available, the average spread was 69 basis points.

[13] In the U.S., where 30-year bonds are no longer being issued, the continued existence of a scarcity premium is even more evident. To illustrate, the spread between 10- and 20-year Treasury bonds over the past six months has averaged 76 basis points. However, there has been virtually no differential between 20-year Treasury bonds and Treasury bonds with maturities greater than 25 years (4 basis points). The Fed no longer reports yields on 30-year Treasury bonds.

Consequently, while, at the end of August 2002, the 30-year Canada yield was only about 20 basis points lower than in the first half of 1998, yields on A-rated utility bonds are approximately 90 basis points higher than in the first half of 1998 (See Schedule 1).

From the experience in the bond markets at least four factors have emerged which were not anticipated or taken into account when P.U. 16 was issued, the initial ROE established, and the formula implemented. These factors call into question the validity of the current levels of allowed returns as determined by the automatic adjustment mechanism.

(1) The world market events of August 1998 brought into focus the globalization of markets and the ability of investors to redeploy huge sums of capital across borders. The integration of capital markets requires explicit recognition of alternative investment opportunities beyond domestic boundaries.

(2) The declines in Government of Canada bond yields that had been experienced were accompanied by a significant loss of purchasing power (in particular, relative to the U.S.) for both Canadian and U.S. investors in Canadian securities. The sole focus on the equity risk premium test in a totally Canadian context fails to provide any compensation for lost purchasing power.

(3) The decline in long government bond yields due to an anticipated decline in supply reduced the effective utility risk premium embedded in the allowed returns.

(4) Given the interest sensitivity of utility stocks, and the fact that a utility's cost of debt, like its cost of equity, is determined by its

business and financial risks, it should be expected that the utility cost of equity will track the utility cost of debt, all other things equal. However, because the allowed ROE has tracked changes in government bond yields rather than utility bond yields, the effective equity risk premium relative to utility bond yields has contracted since P.U. 16 was issued.

Equity Markets

In addition to circumstances in the bond markets, there are factors specific to the equity markets that indicate a need for reevaluation of Newfoundland Power's allowed ROE: the experience of the past several years has brought into focus multiple factors which warrant expanding the analysis of the market risk premium beyond the historic Canadian risk premiums.

First, Canadian investment opportunities are not limited to domestic investments. The risk premium analysis should recognize the increasing globalization of capital markets and the increasing proportion of Canadians' investments in foreign equity securities (particularly U.S. securities).

Over the past several years, Canadian investors became increasingly aware of the mediocre performance of the Canadian equity market, and, given the relatively small size of that market relative to the total global market (approximately 2%), pressure mounted to increase the cap on foreign investments held in RRSPs and pension funds. The 2000 Federal Budget introduced increases which are codified in the Foreign Property Rule; the cap was raised from 20% at the time of P.U. 16 to 25% in 2000, and to 30% in 2001. Further, subsequent to that decision, new investment

products that permit increased exposure to foreign markets, but are deemed as Canadian content, have proliferated.[14] More generally, investment outside of Canada has continued to grow rapidly as the barriers to foreign investment (in terms of both transactions and information costs) have continued to decline. Foreign stock purchases by Canadians have almost quadrupled since 1996, from $98 billion to $380 billion in 2000 and $374 billion in 2001. Of the $374 billion purchased in 2001, 60% were U.S. and 29% were U.K. stocks.[15] The Investment Funds Institute of Canada reported in December 2001 that close to 40% of total non-money market mutual fund assets were invested in foreign/U.S. funds at the end of 2001, compared to 29% in early 1997.[16] Benefits Canada, in "The Top 100 Pension Funds of 2001" (with assets at the end of 2000 of over $500 billion), reported that the asset mix of their equity holdings was 55% Canadian, 20% U.S., and 25% EAFE,[17] emerging markets and global equity.

Second, there are factors specific to the historic Canadian returns that cast doubt on the premise that the data are likely to be a good proxy for future returns. Of key importance with respect to the achieved equity returns is the historical resource-orientation of the Canadian equity market. First, the average achieved returns on the TSE 300 Index were significantly affected by the relatively poor performance of commodity-linked securities. Over the 1956-2001 period (which represents the entire period for which there are data for the TSE 300), the compound returns of the

[14] "Many large pension plans in Canada are already at the 30-percent level or more, through the use of synthetic, derivative-based strategies." (*Globe & Mail*, April 2000). To illustrate, clone funds, first introduced in 1999, can invest up to 30% directly in foreign stocks. The remainder is invested in Canadian Treasury bills used as collateral to buy futures contracts in international stock indexes. Because only 30% is directly invested in foreign stocks, investment in the clone fund is counted as "Canadian content".

[15] Statistics Canada, *Canada's International Transactions in Securities*, April 2002.

[16] Excludes the foreign portion of balanced funds, which is not reported separately.

[17] Europe, Australia, Far East.

commodity-based sectors were exceeded by virtually every other sector of the TSE 300.[18]

Further, the TSE 300 came under severe criticism in the late 1990s regarding the quality, size and liquidity of the stocks contained therein. In late 1998, the S&P/TSE 60 was created as a more liquid index than the TSE 300, with more stringent financial criteria for inclusion. Total return data for the S&P/TSE 60 are only available from 1987; however, over the relatively short period 1987-2001, the S&P/TSE 60 outperformed the TSE 300 by 80 basis points.[19]

Third, a major impediment to reliance on the Canadian market as the "market portfolio" has been the undue influence of a small number of companies. In mid-2000, before the debacle in Nortel Networks' stock value and BCE's disposal of its 35% share interest in Nortel, these two stocks accounted for 35% of the total value of the TSE 300. To put this in perspective, the largest two stocks in the S&P 500 account for approximately 7% of its total market value.

Fourth, the Canadian equity market has undergone significant structural change over the periods typically used to measure historic risk premiums. The historic premiums reflect in considerable measure a resource-based economy. At the end of 1980, no less than 46% of the market value of the

[18] The compound returns of commodity-based sectors were as follows:

Metals/Minerals	7.3%
Gold	9.0%
Oil and Gas	8.5%
Paper/Forest	7.4%

By comparison the (simple) average compound return of the remaining sectors was 10.7%.

[19] An alternative Canadian market index, the Morgan Stanley Capital International (MSCI) Canadian Index, for which total return data are available from 1970-2001, outperformed the TSE 300 by 80 basis points over the last three decades.

TSE 300 was resource-based stocks.[20] At July 2002 that percentage was 29%.[21] By comparison, the influence of technology-intensive sectors on the index has risen markedly. Table 3, which compares the 1980 and mid-2002 market weightings of technology/service sectors, highlights the changes over the past two decades.

Table 3

	1980	2002
Biotechnology/ Pharmaceuticals/ Health Care	0.0%	2.6%
Information Technology	0.9%	4.7%
Telecommunication Services	4.8%	4.5%
Media & Entertainment	0.6%	2.4%
Financial Services	13.5%	32.2%
TOTAL	19.8%	46.5%

Source: TSE Review, December 1980 and July 2002.

Fifth, despite the shift in the make-up of the TSE 300, the Canadian market remains significantly less diversified than the U.S. market. There are various sectors of a diversified economy which are relatively underrepresented in the Canadian equity market, e.g., pharmaceuticals and retailing.

Sixth, from 1947-2001, the achieved risk premiums in Canada were two percentage points lower than in the U.S. Of that amount approximately 60-70 basis points is accounted for by the higher bond yields in Canada. With the improved economic fundamentals in Canada (including

[20] As measured by the oil and gas, gold and precious minerals, metals/minerals, and pulp and paper products sectors. Excludes conglomerates which also contains stocks with significant commodity exposure.

[21] Energy and Materials Industry Sectors.

significantly improved fiscal performance), the risk associated with Canadian government bonds has declined. Consequently, the differential between Canadian and U.S. government bonds that existed historically, on average, is not expected to persist in the future. Indeed, the most recent long-term *Consensus Forecast* (April 2002) anticipates 10-year bond yields averaging 5.8% for both Canada and the U.S. from 2003-2013.

For all of the above reasons, use of the achieved risk premiums in Canada as an estimate of the required risk premium should be undertaken with caution.

In contrast to the TSE 300, the historic U.S. equity returns reflect a more diversified and liquid market. The diversified nature of the U.S. equity market, as well as the close relationship between the Canadian and U.S. capital markets and economies, make the U.S. equity market a relevant historical benchmark for estimating the equity risk premium.[22]

Returns On Equity For Comparable Risk Unregulated Firms

The returns of low risk industrials indicate an increasing divergence between Canadian utility and industrial returns. The comparable earnings test shows that low risk Canadian industrial returns have returned to levels experienced in the years preceding the prolonged period of recession and restructuring in the early 1990s. As discussed in further detail in Section VII and Appendix D, the returns for low risk Canadian industrials have

[22] The CRTC recognized the relevance of the U.S. markets in its March 1998 decision (CRTC 98-2), stating, "that the increased integration of world capital markets has a potential impact on the overall Canadian equity market risk premium since it should, in theory, bring the Canadian market risk premium closer to that experienced in the U.S. equity market. Accordingly, the Commission determines that some weight should be given to the U.S. experience in the estimation of the market premium through the equity risk premium method." The Régie de L'Energie de Québec gave explicit weight (40%) to the U.S. risk premium in Decision 99-150 for Gaz Metro (August 1999).

increased from an average of 10.5% in 1992-1995 to close to 14.2% in 1996-2001. Even if the relatively low returns of the early part of the business cycle are accorded equal weight to the earnings of the latter half of the cycle, the full cycle average is close to 13.5%. That average is almost 4% higher than the utility allowed returns indicated by the automatic adjustment mechanism at recent and forecast 30-year Canada yields (Schedule 3). There have now been seven years of experience since the industrial restructuring in Canada, engendered in large part by the 1989 Free Trade Agreement, took its toll on corporate earnings. That experience indicates that the usefulness of the comparable earnings test has been restored.

The comparable earnings test remains the only test that explicitly recognizes that, in the North American regulatory framework, the return is applied to an original cost rate base. As noted in Decision E91093 of the Public Utilities Board of Alberta, the comparable earnings test recognizes the difference between original cost and market value.

> "The Board recognizes that, in the competitive world, pricing and investment decisions are based on the current market values of assets and the current cost of new capital. However, because the investment base for regulatory purposes is stated on original cost book values, a rate of return such as that determined under the comparable earnings test becomes meaningful." (page 195)

While the Alberta regulator has since adopted the risk premium test as the principal determinant of allowed returns, the logic in its earlier decision still prevails, and should not be dismissed.

As the gap between the comparable earnings standard and allowed returns on equity, determined solely by reference to the risk premium test, widens, fairness to both ratepayers and shareholders warrants re-adherence to the

comparable earnings test, with weight given to both the cost of attracting capital as well as to the comparable earnings standard.

Allowed Utility Returns in the U.S.

A comparison of the allowed returns for Canadian and U.S. utilities provides a further perspective on the low level of Canadian formula-driven utility returns.

The average allowed return for U.S. utilities was 11.4% in 2000, 11.0% in 2001 and 11.2% through the first two quarters of 2002 (See Schedule 4). The equity risk premium implicit in the 2000-2002 U.S. allowed returns was close to 5.5% (11.2% compared to a long-term Treasury yield of approximately 5.7%). By comparison, the average allowed return for Canadian utilities in 2000-2002 was approximately 9.6%, compared to an average 30-year Canada yield of 5.8%, an effective risk premium of 3.9%.

The principal reason for the difference arises from differences in methodologies employed by Canadian and U.S. regulators. U.S. regulators have traditionally utilized the discounted cash flow approach, while Canadian regulators have gravitated toward the equity risk premium approach. The discounted cash flow approach measures investor expected returns directly, by reference to utility dividend yields and expected growth rates. The equity risk premium test, in contrast, estimates the return indirectly using government bond yields as the point of departure. Because it is difficult to accurately measure changes in the required market risk premium from year to year, or measure changes in investors' relative risk perceptions, the allowed returns tend to track changes in forecast long Canada yields only.

Although the DCF test is not without infirmities, the advantage of a DCF-based approach is that it directly measures the utility cost of equity, without having to infer what changes in the spread between the expected equity return and government bond yields have occurred.

The DCF test, applied consistently over time to a sample of low risk U.S. utilities (i.e., relatively pure-play U.S. LDCs) which face a similar level of investment risk to an average risk Canadian utility like Newfoundland Power, shows that directly measured expected equity returns for U.S. LDCs have been much more stable than the equity returns indicated by the risk premium-derived adjustment formulas (See Schedule 14). As a result, the allowed returns for U.S. LDCs have been far more stable than those allowed for utilities in Canada.

The following table compares the trend in allowed ROEs for Canadian and U.S. utilities since 1994 – when the first automatic adjustment formula was introduced in Canada – in conjunction with the corresponding average yield on long-term government bonds.

Table 4

Year	Average Allowed ROE Canadian Utilities	Average 30-Year Canada Yield	Risk Premium	Average Allowed ROE U.S. Utilities	Average 30-Year/ Long-Term Treasury Yield	Risk Premium
1994	11.6%	8.7%	2.9%	11.3%	7.4%	4.0%
1995	12.1	8.4	3.7	11.5	6.9	4.6
1996	11.4	7.8	3.6	11.3	6.7	4.6
1997	10.9	6.7	4.2	11.3	6.6	4.8
1998	10.3	5.6	4.7	11.6	5.5	6.0
1999	9.5	5.7	3.8	10.7	5.9	4.8
2000	9.8	5.7	4.1	11.4	5.9	5.5
2001	9.6	5.8	3.9	11.0	5.5	5.6
2002	9.5	5.8	3.7	11.2	5.7	5.5

Source: Schedule 4.

Table 4 shows that Canadian utility returns were at similar or higher levels than U.S. utility returns in 1994. However, allowed utility returns in the U.S. have remained within a very narrow range, while allowed utility returns in Canada have declined by over 2%.

Given the decline in interest rates in Canada relative to that in the U.S., it should be expected that the differential between the allowed returns in the two countries would have similarly declined. However, there is no capital market basis for the current negative spread. The current levels of allowed returns in Canada, in my view, reflect a significant overestimate of the extent to which the cost of equity has tracked long-term government bond yields since the mid-1990s, and a failure to recognize that the factors that underpinned the decline in long Canada bonds did not similarly reduce expected and required utility equity returns. However, as Canadian regulators gravitated toward the equity risk premium test in the mid-1990s, the differential disappeared, and, is now significantly negative,

despite the close relationship between Canadian and U.S. government bond yields.

An analysis of the relationship between DCF-based estimates of expected U.S. utility equity returns and government bond yields discussed in further detail in Section VII, indicates that the cost of equity has, over the entire period 1993-2002, decreased by approximately 30 basis points for every one percentage decrease in 30-year Treasury bond yields.[23] The indicated relationship is virtually a mirror image of the 75 basis point decrease indicated by the automatic adjustment formulas.

Investment Community Comments

There are a number of published analyses which have addressed the allowed returns in Canada. For example, the Dominion Bond Rating Service (DBRS) has consistently referred to the sensitivity of Canadian utility ROEs to interest rates as a challenge.

In its May 10, 2000 report on Hydro One, DBRS stated that the allowed ROEs for 1999 and 2000 were "somewhat low compared to other alternative investments ...". Following the National Energy Board's decision for TransCanada PipeLines in June 2002, DBRS referred to the 2002 allowed return of 9.53% as "relatively low".

A CIBC World Markets Report entitled "Pipelines and Utilities: Time to Lighten Up", published December 2001, stated, in reference to the then recent formulaic reduction in Newfoundland Power's allowed return,

[23] LDC Risk Premium = 8.95 - .71 (30-Year Treasury yield)
R^2 = 56%

"The magnitude of the reduction in the case of Newfoundland Power illustrates the flaw in using a brief snapshot of existing rates rather than a forecast of rates that are expected to persist during the upcoming year. More importantly, however, it shows the shortcoming of the formula approach itself. Mechanically tying allowed returns on equity to long bond yields is an approach that is simple for regulators to apply; however, in recent years, with a steady decline in bond yields, it has produced-allowed returns that are out of sync with the cost of capital, and returns that are being achieved with comparable nonregulated companies or regulated returns that are achievable in the U.S."

Recommendation

Based on the various changes in the capital markets and economy, that have occurred over the past several years, I recommend that the PUB recalibrate the allowed return on equity applicable to Newfoundland Power, using the results of the three tests traditionally used to establish the fair return on equity.

VII. FAIR RETURN ON EQUITY IN THE CURRENT CAPITAL MARKET ENVIRONMENT

Conceptual Considerations

To re-establish a fair return on equity for Newfoundland Power, I would apply *de novo* the three tests that have traditionally been used to set a fair return: the equity risk premium test, the discounted cash flow test and the comparable earnings test. Reliance on multiple tests recognizes that no one test produces a definitive estimate of the fair return. Each of the three tests has different premises, and each has its own strengths and weaknesses. In principle, the concept of a fair and reasonable return does not reduce to a simple mathematical construct. It would be unjust and unreasonable to view it as such. A fair and reasonable return falls within a range, bounded by the cost of attracting capital and the returns achievable by firms of similar risk to utilities (comparable earnings standard).

The base to which the return is applied determines the dollar earnings stream to the utility, which, in turn, generates the return to the shareholder (dividends plus capital appreciation). In the early years of rate of return regulation in North America, there was considerable debate over how to measure the investment base. The controversy arose from the objective that the price for a public utility service should allow a fair return on the fair value of the capital invested in the business. The debate focused on what constituted fair value: Was it historic cost, reproduction cost, or market value? Ultimately, the courts opted for the "reasonableness of the end result" rather than the specification of a particular method of rate base determination.[24] The use of a historic cost rate base became the norm

[24] *Federal Power Commission v. Hope Natural Gas Company* (320 U.S. 301, 1994).

because it provided an objective, measurable point of departure to which the return would be applied. There was no prescription, however, that the historic cost rate base itself constituted the "fair value" of the investment.

The application of a capital market-derived "cost of attracting capital" to a historic rate base in principle means that the value of the investment will trend toward the historic cost. The arguments in support of that result focus on the way "cost" has typically been interpreted and applied in determining other cost elements in the regulation of North American utilities. For most utilities, rates are set on the basis of average book costs; that concept has been applied to cost of debt, depreciation expense, as well as to all operating and maintenance expenses.

For economists, the theoretically appropriate definition of cost is marginal or incremental cost. Average historic costs have been substituted for marginal or incremental costs for two reasons: first, as a practical matter, long-run incremental costs are difficult to measure; second, for the capital intensive utility industries, pricing on the basis of short-run marginal costs would not cover total costs incurred.

The determination of the return on common equity has traditionally been a "hybrid" concept: to the extent that the cost of equity is based on a forward-looking measure of the cost of attracting capital, it is in principle an incremental cost concept. It has not, however, been applied to a similarly determined base. It is applied to an original cost rate base. When there is a significant difference in the historic original cost rate base and the corresponding current cost of the investment, application of a current cost of attracting capital to an original cost rate base produces an earnings stream that is significantly lower than that which is implied by the application of that same cost rate to market value.

The current cost of attracting capital is measured by reference to market values. The discounted cash flow test, for example, measures the return that investors require on the market value of the equity. For a utility regulated on the basis of original cost book value, the current cost of attracting equity capital is only equivalent to the return investors require on book value when the market value of the common stock is equal to its book value.

As the market value of the equity of regulated utilities increases relative to its book value, the application of a market-value derived cost of equity to the book value of that equity increasingly understates investors' return requirements (in dollar terms).

Some would argue that the market-value of utility shares should be equal to book value. However, economic principles do not support that conclusion. A basic economic principle establishes the expected relationship between market value and replacement cost which provides support for market prices in excess of original cost book value. That economic principle holds that, in the longer-run, in the aggregate for an industry, market value should equal replacement cost of the assets. The principle is based on the notion that, if the market value of firms exceeds the replacement cost of the productive capacity, there is an incentive to establish new firms. The existence of additional firms would lower the prices of goods and services, lower profits and thus reduce market values of all the firms in the industry. In the opposite circumstance, there is an incentive to disinvest, i.e., to not replace depreciated assets. The disappearance of firms would push up prices of goods and services, raise the profits of the remaining firms, thereby raising the market values of the remaining firms. In equilibrium, market value should equal replacement

cost. In the presence of inflation, even at moderate levels, absent significant technological advances, replacement cost should exceed the original cost book value of assets. Consequently, the market value of utility shares should be expected to exceed their book value.

To apply a market-derived current cost of equity to an original cost book value, without offsetting opportunities to achieve returns on book equity commensurate with investor return requirements, will tend to produce an uneconomic allocation of scarce capital resources. Hence, when the allowed return on original cost book value is set, the market-derived cost of attracting capital should be converted to a fair and reasonable return on book equity, so that the stream of dollar earnings on book value equates to the investors' dollar return requirements on market value.

EQUITY RISK PREMIUM TEST

Conceptual Underpinnings

The equity risk premium test is derived from the basic concept of finance that there is a direct relationship between the level of risk assumed and the return required. Since an investor in common equity takes greater risk than an investor in bonds, the former requires a premium above bond yields in compensation for the greater risk. The equity risk premium test is a measure of the market-related cost of attracting capital, i.e., a return on the market value of the common stock, not the book value.

The estimation of the required equity risk premium, for either the market as a whole or a specific utility, is not an exact science. Hence, it is necessary to evaluate a broad spectrum of data and alternative risk

premium estimation approaches to arrive at a reasonable determination of the required equity risk premium.

There are two broad approaches to estimating the equity risk premium for a utility. The first begins with an estimate of the expected equity risk premium for the entire equity market (i.e., the equity market portfolio), subsequently adjusted to reflect the risk of a utility relative to the market as a whole. The second approach develops the risk premium directly for a particular stock or industry (e.g., utilities). In both approaches, the estimated equity risk premiums are obtained by subtracting the estimated risk-free rate from the estimated expected return on the market portfolio or the individual industry/stock. The expected equity risk premium can be developed: (1) from an analysis of historic market risk premiums and (2) from prospective market risk premiums based on discounted cash flow (DCF) estimates of the expected market return. DCF-based estimates of the cost of equity comprise the dividend yield plus investor expectations of longer-term constant growth.

It is critical to recognize that the equity risk premium test is a forward looking concept that reflects investor expectations. The magnitude of the differential between the expected return on equities and the yield on bonds is a function of investors' views of such key factors as inflation, productivity, profitability and investors' willingness to take risks.

It is precisely because the risk premium is a forward-looking concept that:

1. Historic risk premium data need to be evaluated in light of prevailing economic/capital market conditions; and,

2. Direct estimates of the forward-looking risk premium need to supplement measurement of the risk premium by reference to historic data.

Risk-Free Rate

The point of departure for applying the equity risk premium test is a forecast of the risk-free rate to which the equity risk premium is applied. Reliance on a long-term government bond yield as the risk-free rate recognizes (1) the administered nature of short-term rates; and (2) the long-term nature of the assets to which the equity return is applicable. The risk-free rate for purposes of this analysis is conceptually identical to that used by the PUB for purposes of its current automatic adjustment formula.

The forecast 30-year yield is based on the consensus forecast of 10-year Canada bonds plus the spread between 10- and 30-year Canadas. *Consensus Forecasts*, Consensus Economics (August 2002) anticipates that the 10-year yield 3-months and 12-months hence will be 5.3% and 6.0% respectively, for an average of 5.65%. Recent and historic average spreads have been in the range of 35-50 basis points, which, when added to the forecast, indicate a long Canada yield of just over 6%. A 6.0% 30-year Canada yield is a reasonable forecast of the risk-free rate for the 2003 test year.

Risk-Adjusted Market Risk Premium[25]

The risk-adjusted market equity risk premium approach to estimating the required utility equity risk premium entails estimating the equity risk premium for the equity market as a whole, and subsequently adjusting it to recognize the risk of a utility relative to the equity market portfolio.

The estimation of the expected market risk premium from achieved market risk premiums is premised on the notion that investors' expectations are linked to their past experience. Basing calculations of achieved risk premiums on the longest periods available reflects the notion that it is necessary to reflect as broad a range of event types as possible to avoid overweighting periods that represent "unusual" circumstances. On the other hand, the objective of the analysis is to assess investor expectations in the current economic and capital market environment. Hence, focus should be placed on periods whose equity characteristics, on balance, are more closely aligned with what today's investors are likely to anticipate over the longer-term.

Consequently, I focused on the post-World War II returns. The average post-World War II Canadian risk premiums were in the approximate range of 4.75-5.5% (compound and arithmetic averages respectively). The corresponding U.S. equity risk premiums were in the approximate range of 6.75-7.5% (Schedule 9).

In light of the speculative bubble that characterized the U.S. equity market from the mid-1990s to early in 2000, I also looked at post-World War II

[25] See Appendix B for full discussion.

returns prior to 1990. The comparative results for both Canada and the U.S. are as follows:

AVERAGE EQUITY MARKET RETURNS				
	CANADA		U.S.	
	ARITHMETIC	GEOMETRIC	ARITHMETIC	GEOMETRIC
1947-2001	12.3	11.1	13.7	12.4
1947-1989	13.1	11.9	13.5	12.3

Excluding the 1990-2001 data indicates very little change in the historic U.S. data and higher returns in the Canadian market. History suggests achievable equity market returns in the range of 12-13% and a market risk premium, at a risk-free rate of 6%, of 6-7%.

Based on both compound and arithmetic average risk premiums, and considering both the Canadian and U.S. data, in my opinion, the market equity risk premium is in the range of approximately 6.0-6.5%.

Relative Risk Adjustment

In the context of the Capital Asset Pricing Model (CAPM), investor risk can be captured in a single variable, the stock "beta". The stock "beta" measures risk as the volatility of an individual stock or a portfolio of stocks relative to the volatility of the market.

The equity risk premium applicable to a particular stock or portfolio of stocks is equal to its stock "beta" multiplied by the market equity risk premium. Betas are typically measured by reference to historical relative volatility using simple regression analysis between the change in the

market portfolio return and the corresponding change in an individual stock or portfolio of stock returns.

However, historic betas cannot simply be assumed to fully capture the risk for which investors require compensation. The body of evidence on CAPM leads to the conclusion that, while betas do measure relative volatility, the proportionate relationship between risk (beta) and return posited by the CAPM has not been established.

The following table summarizes recent calculated ("raw") betas for individual major Canadian gas and electric utilities, the TSE Gas/Electric Index, and the S&P/TSX Utilities Index.[26]

Table 5

Canadian Utility Betas (60 months ending in indicated year)								
	1995	1996	1997	1998	1999	2000	2001	6/2002
Six [1/] Electric/Gas Utilities (Median)	.50	.49	.45	.52	.35	.24	.16	.14
TSE 300 Gas/Electric Index	.52	.52	.46	.55	.38	.21	.20	NA
S&P/TSX Utilities Index	.67	.65	.53	.55	.30	.14	-.03	-.05

[1/] B.C. Gas, Canadian Utilities, Emera, Enbridge Inc., Fortis and TransAlta.

Source: Schedule 11.

The observed recent decline in the measured utility betas in 1999-2002 can be traced to three factors: (1) the technology sector bubble in general;

[26] The S&P/TSX Utilities Index was created in 2002, when the TSE 300 was revamped. The new Utilities Index is essentially an amalgamation of the former TSE Gas/Electric and Pipeline sub-indices.

(2) the dominance of the TSE 300 by two firms during this period, Nortel Networks and BCE (together accounting for 35% of the TSE 300 in mid-2000); and (3) the negative impact of rising interest rates on utility stocks as the rest of the equity market was soaring (See Chart 1 in Statistical Exhibit). As a result, the disparate movements in utility equities relative to the TSE 300 produced lower measured utility betas.

The decoupling between utility shares and the rest of the market during the technology bubble (and subsequent melt-down of Nortel and other high tech stocks) should not be interpreted as a change in the relative riskiness of utility shares. Rather, it is an indication of the weakness of beta as the sole measure of the relative return requirement. Utilities are interest-sensitive stocks and thus tend to move with interest rates, which frequently move counter to the equity market. Consequently, utility equity price movements are correlated not only with the stock market, but also with movements in the bond market. The interest-sensitivity of utility shares may not be fully captured in the calculated betas which simply measure the covariability between a stock and the equity market.

Given the infirmities of beta, some recognition should be given to total market risk (including both diversifiable and non-diversifiable risk) as measured by the standard deviation of market returns.

The standard deviations indicate some increase both in the absolute and relative volatility of Canadian utility shares since 1998 and provide further evidence that sole reliance on simple calculated (or "raw") betas would understate the required return for a regulated utility. The standard deviations suggest a relative risk factor of approximately 0.65.

Many major investment advisory firms report betas that are adjusted toward a market mean of 1.0. The betas for Canadian utilities, if adjusted in a manner similar to such services, e.g., *Value Line* and Bloomberg,[27] have been approximately 0.60 (See Schedule 11).

Based on my analysis, I conclude that a reasonable relative risk adjustment for an average risk Canadian utility is approximately 0.60-0.65.

At a market risk premium of 6.0-6.5% and a relative risk adjust of 0.60-0.65, the indicated equity risk premium for an average risk Canadian utility, e.g., Newfoundland Power, is approximately 4.0%.

Historic Utility Risk Premiums

The historic experienced returns for utilities provide an additional perspective on a reasonable expectation for the forward looking utility equity risk premium. Over the longer-term, achieved utility equity risk premiums were 4.4-4.9% for Canadian gas and electric utilities (TSE 300 Gas/Electric Sub-Index) over the period 1956-2001, based on both arithmetic and geometric average returns. For U.S. LDCs, the historic equity risk premiums averaged approximately 5.7-6.3% (based on arithmetic and geometric averages) over the entire post-World War II period (1947-2001). For U.S. electric utilities, the corresponding risk premiums have been 4.4-5.2% (Schedule 10). The historic risk premiums for both Canadian and U.S. utilities support an expected equity risk premium estimate for an average risk Canadian utility of approximately 4.75% to 5.0%.

[27] Adjusted utility beta = 2/3 ("raw" beta) + 1/3 (market beta of 1.0).

DCF-Based Equity Risk Premium Test

A forward-looking equity risk premium test was also performed, using the discounted cash flow model (DCF) to estimate expected utility returns over time. Monthly DCF estimates were constructed for a sample of U.S. LDCs, for the period 1993-2002 (2nd Qtr.)[28] using a consensus of analysts' forecasts of long-term normalized earnings growth, as compiled by I/B/E/S International (a Thomson Financial Company) plus the corresponding expected dividend yield to measure the expected utility return (Schedule 14). The monthly risk premium was equal to the difference between the median DCF cost of equity for the sample and the corresponding 30-year Treasury yield.[29]

In conducting this test, I relied on U.S. LDCs for several reasons. First, although there are company-specific business and financial risk differences which must be recognized, U.S. and Canadian utilities are reasonable proxies for one another, particularly in today's global capital market. Second, there is a dearth of forward-looking estimates of growth for Canadian utilities which would permit the creation of a consistent series of DCF costs of equity and corresponding risk premiums from Canadian data. Third, LDCs were selected in lieu of electric utilities because U.S. LDCs have not experienced the same degree of restructuring as electric utilities. Hence, reliance on the gas industry ensures a series of observations which reflect a relatively stable regulatory environment, and thus allow the estimation of the relationship between the equity risk

[28] Subsequent to Open Access implemented via FERC Order 636.
[29] The yield on long-term issues (over 25 years to maturity) is used in place of the 30-year Treasury yield subsequent to February 2001, when the Federal Reserve stopped reporting 30-year Treasury yields.

premium and interest rates. Fourth, the level of business risk faced by U.S. LDCs is quite similar to that of Newfoundland Power.

The selection criteria for the sample of LDCs are delineated in Appendix C, Discounted Cash Flow Test. As evidenced by the available betas for Canadian utilities compared to those of U.S. LDCs (Schedules 11 and 12) and debt ratings (Schedules 5 and 15), it is possible to infer that the capital market views the typical Canadian utility and U.S. LDCs to be of approximately similar investment risk.[30] To the extent that the sample of U.S. LDCs faces higher business risk than a typical electric or gas Canadian utility, the higher risk is offset by lower financial risks, as indicated by the differences in capital structure. The average three-year (1999-2001) total debt ratio for the sample of U.S. LDCs was 53%; the average for the major Canadian utilities (2001) was 58% (based on total capital) (Schedules 6 and 8).

The average risk premium over the 1993-2002 (2nd Qtr.) period was 4.4%; the corresponding average long term government bond yield was 6.3%. However, the average masks the fact that the risk premiums have been higher at lower levels of interest rates and vice versa. The average risk premium when 30-year Treasuries were between 5.5-6.5% – encompassing the level forecast for 30-year Canadas – was in the range of approximately 4.4-4.8% (Schedule 14).

A simple regression between the 30-year Treasury yields and the corresponding equity risk premiums shows the following:

[30] In addition, the two regulated Canadian companies followed by *Value Line*, TransAlta Corporation and TransCanada PipeLines have both been assigned Safety Ranks of "3", equal to the median Safety Rank for the LDC sample.

Equity Risk Premium = 8.95 - .71 (30-year Treasury Yield)

R^2 = 56%

At a 30-year government bond yield of 6.0%, the indicated utility equity risk premium is 4.7%.

In light of the increasing spreads between government bond yields and utility bond yields in both Canada and the U.S., the study was expanded to test the relationship between the utility equity risk premiums, long-term government bond yields, and the spread between A-rated utility bond yields and long-term government bond yields.

The analysis indicated the following:

LDC Risk Premium = 7.14 - .52 TY + .36 Spread

where,

TY = 30-year Treasury Yield

Spread = Spread between Moody's A-rated Utility Bond Yields and 30-year Treasury Yields

Thus, the data indicate that, while the utility risk premium is negatively related to the level of government bond yields, it has been positively related to the spread between utility bond yields and government bond yields.[31]

[31] Statistics for the equation:

R^2	58.9%
t-statistics:	
Long-term bond yield:	-5.90
Utility/government bond yield spread:	3.19

Using a forecast long Canada yield of 6.0% and an A-rated utility bond/long Canada spread of 1.4%, the indicated utility risk premium is 4.6%.

"Bare-Bones" Cost of Equity

On balance, the various risk premium analyses indicate that the required equity risk premium for an average risk Canadian utility is in the range of 4.0-4.75%. Adding the 4.0-4.75% equity risk premium to the forecast long Canada bond yield of 6.0% results in a cost of equity in the range of 10.0-10.75%. The 10.0-10.75% return on equity range is a "bare-bones" cost, which needs to be adjusted for financing flexibility.

Financing Flexibility

An adjustment to the equity risk premium test result for financing flexibility is required because the measurement of the return requirement based on market data results is a "bare-bones" cost, in the sense that if this return is applied to the book equity of the rate base -- and assuming the expected return corresponds to the approved return -- the market value of the utility would be kept close to book value.

The financing flexibility allowance is an integral part of the cost of capital as well as a required component of the concept of a fair return. That allowance is intended to cover three distinct aspects: (1) flotation costs, comprising financing and market pressure costs arising at the time of the sale of new equity; (2) a margin, or cushion, for unanticipated capital market conditions; and (3) a recognition of the "fairness" principle, in the sense that regulation should not seek to keep the market value of a utility stock close to book value, when industrials of comparable investment risk

have been able to consistently maintain the real value of their assets considerably above book value.

The financing flexibility adjustment recognizes that return regulation remains, fundamentally, a surrogate for competition. Competitive industrials of reasonably similar risk to utilities have consistently been able to maintain the real value of their assets significantly in excess of book value, consistent with the proposition that, under competition, market value will tend to equal the replacement cost, not the book value, of assets. Utility return regulation should not seek to target the market/book ratios achieved by such industrials, but it also should not preclude utilities from achieving a level of financial integrity that gives some recognition to the longer run tendency for the market value of industrials to equate to the replacement cost of their productive capacity. This is warranted not only on grounds of fairness, but also on economic grounds, to avoid misallocation of resources. To ignore these principles in determining an appropriate financing flexibility adjustment is to ignore the basic premise of regulation. A recognition of all three factors warrants a financing flexibility adjustment of no less than 50 basis points.[32]

Adding a financing flexibility adjustment of 50 basis points to the 10.0-10.75% "bare-bones" cost of equity range results in a return on equity in the range of 10.5-11.25% for an average risk Canadian utility.

[32] In P.U. 16, the PUB determined that a financing flexibility adjustment of 50 basis points was appropriate.

DISCOUNTED CASH FLOW TEST [33]

Conceptual Underpinnings

The discounted cash flow approach proceeds from the proposition that the price of a common stock is the present value of the future expected cash flows to the investor, discounted at a rate which reflects the riskiness of those cash flows. Theoretically, the cash flows extend to infinity.

In my analysis, I relied on the constant growth model, which rests on the assumption that investors expect cash flows to grow at a constant rate throughout the life of the stock. The assumption that investors expect a stock to grow at a constant rate over the long-term is most applicable to stocks in mature industries.

Although it has flaws, the DCF model has one distinct advantage over risk premium estimates, particularly those made using the CAPM. It allows the analyst to directly estimate the utility cost of equity. In contrast, the CAPM indirectly estimates the cost of equity. The results of the DCF method can then be used, at a minimum, as a means to test the validity of the CAPM results. Further, in light of the recent volatility in the equity markets, and the rapid shifts in investors' risk perceptions, it is important to rely on multiple approaches to estimating the cost of capital. As a result, although I did not rely on the DCF test in the 1998 proceeding, I believe that the application of the test is currently warranted.

[33] Full discussion in Appendix C.

Proxy Utilities

The discounted cash flow test was applied to a sample of relatively "pure-play" U.S. local gas distribution companies that serve as a proxy for Newfoundland Power.

The DCF test was applied to U.S. utilities for three reasons. First, Canadian utilities operate in a global equity market, and require returns that are competitive with their U.S. peers'. Second, there are very few publicly-traded utilities in Canada to serve as a proxy for Newfoundland Power. Third, for the few publicly-traded Canadian utilities that remain, there is a dearth of longer-term growth projections. Estimates of investors' growth expectations are a key component of the discounted cash flow model.

Further, I relied on LDCs rather than electric utilities for three reasons. First, Newfoundland Power is primarily an electric distribution utility. There are a very limited number of U.S. electric utilities whose operations are primarily distribution and/or transmission. Second, the operations of electric and gas distribution utilities have significant parallels, and are frequently considered to be proxies for one another. Third, as noted in Section II, a business profile score of "3" which is likely to be assigned to Newfoundland Power is the same as that of the typical U.S. LDC (Schedule 8). In contrast, the typical business score of the U.S. electric utilities is "4" (Schedule 8).

Application of the DCF Test

The DCF model was applied to the sample of U.S. LDCs using the following inputs:

(1) the annualized dividend paid during the three months ending August 31, 2002 as D_0;

(2) the average of the monthly high and low prices for the three months ending August 31, 2002 as P_0; and,

(3) the average of the most recent 2002 I/B/E/S and Zacks consensus long-term earnings growth forecasts[34] to estimate "g" in the growth component and to adjust the current dividend yield to the expected dividend yield.

Based on both the mean and median DCF costs of equity for the sample, the estimated required return on the current (market) value of common equity is 11.4-11.5% (Schedule 16).

I tested the reasonableness of the results based on consensus earnings growth forecasts by also making DCF estimates using *Value Line* longer-term (2005-2007) forecast sustainable growth rates. As shown in detail on Schedule 17, the sample median DCF cost was 11.2%; the sample mean was 11.7%. Consequently, the DCF results based on sustainable growth support the 11.4-11.5% DCF cost of equity estimated using the consensus of analysts' earnings growth forecasts.

[34] Studies have shown that analysts' forecasts are optimistic; however, as long as investors accept the analysts' views, the optimism in the forecasts is also reflected in the stock prices. Thus the resulting DCF estimate is an unbiased estimate of the utility cost of equity.

Based on the results using both analysts' earnings forecasts and the sustainable growth estimates, the DCF test indicates a cost of equity of approximately 11.5% for an average risk U.S. LDC. Given the similar investment risk between U.S. LDCs and an average risk Canadian utility (e.g., Newfoundland Power), the DCF cost of equity for the LDCs serves as a proxy for the cost of equity for Newfoundland Power.

DCF Cost of Equity and the Fair Return on Book Equity

The DCF cost of approximately 11.5% represents the return investors expect to earn on the current market value of their utility common equity investments. It is not, however, the return that investors expect the LDCs to earn on the book value of their common equity. *Value Line*, which publishes projections of utility ROEs quarterly, anticipates that the average ROE for the sample of eight LDCs will be in the range of 12.5-13.7% (2005-2007) (Schedule 17).

There is a "disconnect" in logic if investors expect the allowed return on equity to be equal to the DCF cost of equity when the market value deviates materially from the original cost book value to which the allowed return is applied. This is clearly the case under recent capital market conditions. The median 2001 market/book ratio of the U.S. LDCs was 179% (Schedule 15).

To illustrate the problem, assume that a utility whose market/book ratio is 175% were expected to only earn a return on book value equal to the DCF cost of equity of 11.5%. The market price of that utility's stock would tend to decline to book value, so that investors experience a capital loss of 43%. The idea that investors are willing to pay a price equal to 175% of

book value in order to see the market value of their investment drop by 43% is illogical.[35]

To mitigate the problem created by the divergence between market and book values, at a minimum, the DCF test result should be augmented by the same increment for financial flexibility as applicable to the equity risk premium test results. A minimum allowance of 50 basis points, which raises the 11.5% DCF test result to 12.0%, will put the utility in a position to raise new common equity without impairment of its financial integrity and provide a cushion to protect against unanticipated capital market conditions (i.e., a major break in the capital markets).

COMPARABLE EARNINGS TEST

Conceptual Underpinnings

The comparable earnings test provides a measure of the fair return based on the concept of opportunity cost. Specifically, the test arises from the notion that capital should not be committed to a venture unless it can earn a return commensurate with that available prospectively in alternative ventures of comparable risk. Since regulation is a surrogate for

[35] To illustrate, assume a utility's book value is $10.00 and its stock sells at $17.50 (so that its market-to-book ratio is 175%); the expected return on book value is 13.0% (earnings per share of $1.30); and its expected payout ratio is 55% (dividend per share of $0.72). An application of the DCF formula would show a current dividend yield of 4.1% ($0.72 / $17.50), and a longer-term "sustainable" growth rate of 5.85% (45% x 13.0%, i.e., sustainable growth = percent of earnings retained x return on equity), for a DCF cost of 10.0%.

If the calculated DCF cost of 10.0% were applied to book value, earnings would decline to $1.00 per share ($10.00 x 10.0%), the payout ratio would rise to 72% ($0.72 / $1.00) and the longer-term growth rate would decline to 2.8%, calculated as (1.0 - .72) x 10.0%. Hence, investors' expectations for growth of 5.85% would not be realized, and the stock price would decline to book value. The expected return on the revalued stock would be 10.0%, comprised of a dividend yield of 7.2% ($0.72 / $10.00) and growth of only 2.8%. However, the realized holding period return for an investor purchasing the stock at $17.50 per share (assuming a one year work-out period) would be a capital loss of 43%. The proposition that investors are willing to invest $17.50 per share to end up with a stock whose value is $10.00 defies common sense.

competition, the opportunity cost principle entails permitting utilities the opportunity to earn a return commensurate with the levels achievable by competitive firms facing similar risk. The comparable earnings test, which measures returns in relation to book value, is consistent with the original cost rate base form of regulation.

The comparable earnings test is an implementation of the comparable earnings standard, as distinguished from the cost of attracting capital standard. The comparable earnings standard recognizes that utility costs are measured in vintaged dollars and that rates are based on accounting costs, not economic costs. In contrast, the cost of attracting capital standard relies on costs expressed in dollars of current purchasing power, i.e., a market-related cost of capital. In the absence of experienced inflation, the two concepts would be quite similar, but the impact of inflation has rendered them dissimilar and distinct.

The concept that regulation is a surrogate for competition may be interpreted to mean that the combination of an original cost rate base and a fair return should result in a value to investors commensurate with that of competitive ventures of similar risk. The fact that an original cost rate base provides a starting point for the application of a fair return does not mean that the original cost of the assets is a measure of their fair value. The comparable earnings standard, as well as the principle of fairness, suggest that, if competitive industrial firms facing similar risk to utilities are able to maintain the value of their assets considerably above book value, the return allowed to utilities should not seek to maintain the value of utility assets at book value. It is critical that the regulator recognize the comparable earnings standard when setting a just and reasonable return.

Application of the Comparable Earnings Test.[36]

Application of the comparable earnings test first requires the selection of a group of Canadian industrials of generally similar risk to utilities. The selection should conform to investor perceptions of the risk characteristics of utilities, which are generally characterized by relative stability of earnings, dividends and market prices. These were the principal criteria for the selection of the Canadian industrial companies (from consumer-oriented industries), resulting in a sample of 15 companies.

Since industrials' returns on equity tend to be cyclical, the appropriate period for measuring industrial returns should encompass an entire business cycle, covering years of expansion and decline. That cycle should be representative of a future normal cycle, e.g., similar in terms of inflation and real economic growth. Over the past business cycle (1992-2001), the experienced returns on equity of the sample of 15 industrials averaged approximately 12.7-14.0% (Schedule 18).

The average economic growth during this cycle was 3.2%, compared to the consensus forecast rate of growth of approximately 3.0% for the next decade (2002-2012). Prospective longer-term Canadian inflation is forecast to average 1.9% (CPI), slightly higher than the average level achieved during the 1992-2001 business cycle (1.7%). The moderately lower expected real growth, but slightly higher inflation relative to the past, indicate that the experienced returns on book equity, absent extraordinary events, provide a conservative proxy for the future.

[36] Full discussion in Appendix D.

The conservative nature of this conclusion is supported by two factors. First, the level of returns achieved during the cycle increased from approximately 10.5% in 1992-1995 to 14.2% in 1996-2001. The 1992-1995 average of 10.5% reflects in part the effect of the prolonged recession and restructuring. The recent average (1996-2001) of 14.2% reflect a return to the level of returns achieved by low risk industrials during the prior (1983-1991) business cycle. Second, lower future corporate income tax rates in Canada should result in higher after-tax returns on equity.

With respect to the relative investment risk of the Canadian industrials compared to an average risk Canadian utility, the business risk of the industrials exceeds that of utilities; however, this difference is largely offset by the industrials' lower financial risk, reflected in their higher common equity ratios. The comparative risk data indicate that the Canadian utilities and industrials are in approximately the same risk class (See Appendix D). Consequently, the Canadian industrials' returns serve as a reasonable, even conservative, proxy for a fair return for an average risk Canadian utility. Focusing on the median values, the Canadian low risk industrial returns indicate a fair return in the range of 12.75-13.5%.

The returns of U.S. low risk industrials offer a further perspective on the opportunity cost foregone by Canadian investors. These returns are pertinent not only because there is a relatively small number of low risk industrials in Canada, but also because of the increasing globalization of markets and, specifically, the close connection between the U.S. and Canadian economies and capital markets.

The returns of a sample of 84 low risk U.S. industrials averaged approximately 14.0-14.7% over the business cycle 1992-2001 (Schedule

20). Recognizing the somewhat higher investment risk of the U.S. industrials relative to an average risk Canadian utility, the comparable return on equity is no less than 14.0%.

With primary weight given to the Canadian results, the fair return applicable to an average risk Canadian utility (e.g., Newfoundland Power) based on the comparable earnings test is in the range of 12.75-13.25%.

FAIR RETURN ON EQUITY FOR NEWFOUNDLAND POWER

The results of the three tests used to estimate a reasonable return on equity for an average risk Canadian utility are summarized below:

Equity Risk Premium	10.5-11.25%
Discounted Cash Flow	12.0%
Comparable Earnings	12.75-13.25%

In arriving at a reasonable return on equity for an average risk Canadian utility, I have given primary weight to the cost of attracting capital, which is measured by the equity risk premium and DCF tests. However, the comparable earnings test is entitled to significant weight in setting a fair return that balances both ratepayer and shareholder interests. If only the equity risk premium and comparable earnings test (which I relied upon in 1998) are given weight, the indicated return on equity is approximately 11.5%. In my opinion, some weight should be given to the results of each of the three tests, which leads me to recommend a return on equity for Newfoundland Power in the range of 11.5-12.0%.

VIII. AUTOMATIC ADJUSTMENT MECHANISM

Newfoundland Power is proposing to continue the automatic adjustment formula approved by the PUB in P.U. 16. However, the Company is proposing to amend the formula so that it utilizes forecasts of Government of Canada bond yields rather than actual yields on specific long-term bonds. I agree with the Company's proposal.

The formula approved in P.U. 16 uses the actual bond yields on two specific long-term Government of Canada bonds which prevailed over a ten day period as the forecast for the subsequent year. In contrast, all of the other automatic adjustment formulas that are in force (British Columbia, Ontario, Québec, National Energy Board) rely on the Consensus Economics, *Consensus Forecasts* outlook for 10-year Canada bonds, plus the spread between 10- and 30-year Canada bonds. In each case, the spread represents an average of actual spreads computed over a full month of trading days either preceding or encompassing the month of the consensus forecast.

The principal benefit of using a forecast of bond yields, rather than actual yields, is the fact that, for any given period, the actual yields may reflect circumstances that are unique to that period or to the trading activity in specific bonds. The following example illustrates the potential problem.

The PUB's current approach entails averaging the actual yields on two long-term Canada bonds over the last five trading days in October and the first five trading days in November. On October 31, 2001, the U.S. government announced it would no longer be issuing 30-year bonds. There was an immediate reaction in both the U.S. and Canadian bond markets, with long-term government bond prices rising (yields falling), in

expectation of a scarcity of long-term government issues. The average yield on the benchmark long-term Canada bonds on the five trading days prior to the announcement (October 24-30, 2001) had been 5.66%.[37] Over the next five trading days, including the announcement date of the discontinuation of 30-year U.S. Treasury issues, the average long Canada yield had declined to 5.33%.[38]

Although to some extent, the immediate decline in yields was reflected in the November 2001 consensus forecast, the decline in the forecast was less than the near-term decline in actual yields.

Table 6 compares forecasts of 30-year yields using October-December 2001 *Consensus Forecasts* (and the NEB spread methodology) to the "forecasts" that would have resulted during the same period from using 10 trading days of actual bond yields.

Table 6

Month (2001) (1)	Forecast 10-Year Yields: Three Months Forward (2)	Forecast 10-Year Yields: Twelve Months Forward (3)	Forecast 10-Year Yields: Average (4)	30/10 Year Spread (prior month) (5)	30-Year Forecast 1/ (6)	Actual Long-Term Yields 2/ (7)
October	5.1%	5.5%	5.3%	.48	5.78%	5.79%
November	4.9%	5.4%	5.15%	.48	5.63%	5.45%
December	5.2%	5.6%	5.4%	.33	5.73%	5.59%

1/ Column (6) = Average of columns (2), (3) and (4) plus spread in Column (5).
2/ Based on five trading days prior to and five trading days subsequent to the beginning of the month of the forecast.
Source: Consensus Economics, *Consensus Forecasts*; Bank of Canada.

[37] As reported on the Bank of Canada website.
[38] As reported on the Bank of Canada website.

A comparison of the data in columns (6) and (7) of Table 6 shows that during fourth quarter 2001, (coincident with the U.S. Government's announcement), the forecasts based on actual yields were more volatile than those based on *Consensus Forecasts*. Further, the consensus forecast from November 2001 of 5.63% has been closer to the actual average long-term bond yield to date in 2002 (5.74% through September 17) than the PUB's "forecast based on actual yields".

Consequently, in my view, if an automatic adjustment formula which tracks long Canada yields is to be relied upon, it is preferable to use the consensus forecast rather than actual yields, since the latter may reflect transitory investor reactions and/or unusual trading activity resulting from unique circumstances.

APPENDIX A
QUALIFICATIONS OF
KATHLEEN C. McSHANE

Kathleen McShane is a Senior Vice President and senior consultant with Foster Associates, Inc., where she has been employed since 1981. She holds an M.B.A. degree in Finance from the University of Florida, and M.A. and B.A. degrees from the University of Rhode Island. She is also a Chartered Financial Analyst.

Ms. McShane worked for the University of Florida and its Public Utility Research Center, functioning as a research and teaching assistant, before joining Foster Associates. She taught both undergraduate and graduate classes in financial management and assisted in the preparation of a financial management textbook.

At Foster Associates, Ms. McShane has worked in the areas of financial analysis, energy economics and cost allocation. Ms. McShane has presented testimony in more than 100 proceedings on rate of return and capital structure before federal, state, provincial and territorial regulatory boards, on behalf of U.S. and Canadian telephone companies, gas pipelines and distributors, and electric utilities. These testimonies include the assessment of the impact of business risk factors (e.g., competition, rate design, contractual arrangements) on capital structure and equity return requirements. Ms. McShane has also provided consulting services for numerous U.S. and Canadian companies on financial and regulatory issues, including financing, dividend policy, corporate structure, cost of capital, automatic adjustments for return on equity, and form of regulation (including performance-based regulation).

Ms. McShane was principal author of a study on the applicability of alternative incentive regulation proposals to Canadian gas pipelines. She was instrumental in the design and preparation of a study of the profitability of 25 major U.S. gas pipelines, in which she developed estimates of rate base, capital structure, profit margins, unit costs of providing services, and various measures of return on investment. In a study prepared for the Canadian Ministry of Energy, Ms. McShane analyzed Federal regulation of U.S. pipelines, including trends in rate design and rate structures. Ms. McShane has also co-managed market demand studies, focusing

on demand for Canadian gas in U.S. markets. Other studies performed by Ms. McShane include a comparison of municipal and privately owned gas utilities, an analysis of the appropriate capitalization and financing for a new gas pipeline, risk/return analyses of proposed water and gas distribution companies and an independent power project, pros and cons of performance-based regulation, and a study on pricing of a competitive product for the U.S. Postal Service. She has also conducted seminars on cost of capital for regulated utilities, with focus on the Canadian regulatory arena.

Publications and Papers

- "The Effects of Unbundling on a Utility's Risk Profile and Rate of Return", (co-authored with Owen Edmondson, Vice President of ATCO Electric), presented at the Unbundling Rates Conference, New Orleans, Louisiana sponsored by Infocast, January 2000.

- Atlanta Gas Light's Unbundling Proposal:: More Unbundling Required?" presented at the 24th Annual Rate Symposium, Kansas City, Missouri, sponsored by several Commissions and Universities, April 1998.

- "Incentive Regulation" An Alternative to Assessing LDC Performance", (co-authored with Dr. William G. Foster), presented at the Natural Gas Conference, Chicago, Illinois sponsored by the Center for Regulatory Studies, May 1993.

- "Alternative Regulatory Incentive Mechanisms", (co-authored with Stephen F. Sherwin), prepared for the National Energy Board, Incentive Regulation Workshop, October 1992.

- "Market-Oriented Sales Rates and Transportation Services of U.S. Natural Gas Distribution Companies", (co-authored with Dr. William G. Foster), published by the IAEE in *Papers and Proceedings of the Eighth Annual North American Conference*, May 1987.

- "Canadian Gas Exports: Impact of Competitive Pricing on Demand", (co-authored with Dr. William G. Foster), presented to A.G.A.'s Gas Price Elasticity Seminar, February 1986.

- "Marketing Canadian Natural Gas in the U.S.", (co-authored with Dr. William G. Foster), published by the IAEE in *Proceedings: Fifth Annual North American Meeting*, 1983.

Expert Testimony/Opinions

on

Rate of Return & Capital Structure

Alberta Natural Gas	1994
Alberta Power/ATCO Electric	1989, 1991, 1993, 1995, 1998, 1999, 2000
AltaGas Utilities	2000
Ameren (Central Illinois Public Service & Union Electric)	2000 (3 cases), 2002
ATCO Gas	2000
ATCO Pipelines	2000
BC Gas	1992, 1994
Bell Canada	1987, 1993
Benchmark Utility Cost of Equity (British Columbia)	1999
Canadian Western Natural Gas	1989, 1998, 1999
Centra Gas B.C.	1992, 1995, 1996, 2002
Centra Gas Ontario	1990, 1991, 1993, 1994, 1996
Dow Pool A Joint Venture	1992
Edmonton Water/EPCOR Water Services	1994, 2000
Enbridge Gas Distribution	1988, 1989, 1991-1997, 2001, 2002
Enbridge Gas New Brunswick	2000
Gas Company of Hawaii	2000
Gaz Metropolitain	1988
Gazifère	1993, 1994, 1995, 1996, 1997, 1998
HydroOne/Ontario Hydro Services Corp.	1999, 2000
Laclede Gas Company	1998, 1999, 2001, 2002
Maritimes NRG (Nova Scotia) and (New Brunswick)	1999
Multi-Pipeline Cost of Capital Hearing (National Energy Board)	1994

Natural Resource Gas	1994, 1997
Newfoundland & Labrador Hydro	2001
Newfoundland Power	1998
Newfoundland Telephone	1992
Northwestel, Inc.	2000
Northwestern Utilities	1987, 1990
Northwest Territories Power Corp.	1990, 1992, 1993, 1995, 2001
Nova Scotia Power Inc.	2001, 2002
Ozark Gas Transmission	2000
Pacific Northern Gas	1990, 1991, 1994, 1997, 1999, 2001
St. Lawrence Gas	1997, 2002
Southern Union Gas	1990, 1991, 1993
Stentor	1997
Tecumseh Gas Storage	1989, 1990
Telus Québec	2001
TransCanada PipeLines	1988, 1989, 1991 (2 cases), 1992, 1993
TransGas and SaskEnergy LDC	1995
Trans Québec & Maritimes Pipeline	1987
Union Gas	1988, 1989, 1990, 1992, 1994, 1996, 1998, 2001
Westcoast Energy	1989, 1990, 1992 (2 cases), 1993
West Kootenay Power/Utilicorp United Networks (B.C.)	1995, 1999, 2001
Yukon Electric Co. Ltd./Yukon Energy	1991, 1993

Expert Testimony/Opinions

on

Other Issues

Client	Issue	Date
Gaz Metro/ Province of Québec	Cost Allocation/ Incremental vs. Rolled-In Tolling	1984
Canadian Western Natural Gas	Cash Working Capital/ Compounding Effect	1989
Maritime Electric	Form of Regulation	1995
Enbridge Consumers Gas	Principles of Cost Allocation	1998
Enbridge Consumers Gas	Unbundling/Regulatory Compact	1998
Gazifère Inc.	Cash Working Capital	2000
Maritime Electric	Subsidies	2000
ATCO Electric	Carrying Costs on Deferral Account	2001
Newfoundland & Labrador Hydro	Rate Base, Cash Working Capital	2001

APPENDIX B
RISK-ADJUSTED MARKET RISK PREMIUM

The risk-adjusted market equity risk premium approach to estimating the required utility equity risk premium entails estimating the equity risk premium for the equity market as a whole, and subsequently adjusting it to recognize the risk of a utility relative to the equity market portfolio. The following provides a detailed assessment of the market risk premium and the relative risk adjustment

MARKET RISK PREMIUM

The estimate of the expected market equity risk premium is made by reference to an analysis of historic (experienced) market risk premiums. Analysis of historic risk premiums should not be limited to the Canadian experience, but should consider the U.S. equity market to be a relevant benchmark for estimating the equity risk premium from the perspective of Canadian investors.

The estimation of the expected market risk premium from achieved market risk premiums is premised on the notion that investors' expectations are linked to their past experience. Basing calculations of achieved risk premiums on the longest periods available reflects the notion that it is necessary to reflect as broad a range of event types as possible to avoid overweighting periods that represent "unusual" circumstances. On the other hand, the objective of the analysis is to assess investor expectations in the current economic and capital market environment. Hence, focus should be placed on periods whose equity characteristics, on balance, are more closely aligned with what today's investors are likely to anticipate over the longer-term.

Key structural economic changes have occurred since the end of World War II, including:

1. The globalization of the North American economies, which has been facilitated by the reduction in trade barriers of which GATT (1947) was a key driver;

2. Demographic changes, specifically suburbanization and the rise of the middle class, which have impacted on the patterns of consumption;

3. Transition from a resource-oriented/manufacturing economy to a service-oriented economy;

4. Technological change, particularly in the areas of telecommunications and computerization, which have facilitated both market globalization and rising productivity.

Consequently, the focus was on the post-World War II returns. The average post-World War II Canadian risk premiums were in the approximate range of 4.75-5.5% (compound and arithmetic averages respectively). The corresponding U.S. equity risk premiums were in the approximate range of 6.75-7.5% (Schedule 9).

In principle, when historic risk premiums are used as a basis for estimating the expected risk premium, arithmetic averages should be used. The appropriateness of arithmetic averages, as opposed to geometric averages, for this purpose is succinctly explained by Ibbotson Associates (*Stock, Bonds, Bills and Inflation*, 1998 Yearbook, pp. 157-159):[1]

> The expected equity risk premium should always be calculated using the arithmetic mean. The arithmetic mean is the rate of return which when compounded over multiple periods, gives the mean of the probability

[1] In Robert F. Bruner, Kenneth M. Eades, Robert S. Harris, and Robert C. Higgins, "Best Practices in Estimating the Cost of Capital: Survey and Synthesis", *Financial Practice and Education*, Spring/Summer 1998, pp. 13-28, the authors found that 71% of the texts and tradebooks in their survey supported use of an arithmetic mean for estimation of the cost of equity. One such textbook, Richard A. Brealey and Stewart C. Myers, *Principles of Corporate Finance*, Boston: Irwin McGraw Hill, 2000, p. 157) states, "Moral: If the cost of capital is estimated from historical returns or risk premiums, use arithmetic averages, not compound annual rates of return."

> distribution of ending wealth values . . .in the investment markets, where returns are described by a probability distribution, the arithmetic mean is the measure that accounts for uncertainty, and is the appropriate one for estimating discount rates and the cost of capital.

Expressed simply, the arithmetic average recognizes the uncertainty in the stock market; the geometric average removes the uncertainty by smoothing over annual differences.

Some recent studies conclude that market equity risk premiums will be lower in the future than have been achieved historically in the U.S. market. The conclusion that the historic U.S. risk premium overstates the future risk premium stems in part from the fact that the magnitude of the achieved risk premiums is due to an increase in price/earnings ratios. That is, the historic market returns on equity reflect appreciation in the value of the stock in excess of that supported by the underlying growth in earnings or dividends. The increase in P/E ratios, it has been argued, reflects a decline in the rate at which investors are discounting future earnings, i.e., a lower cost of capital.

However, the preponderance of the increase in price/earnings ratios in the U.S. market occurred during the 1990s. The P/E ratio of the S&P 500 increased from an average of 13.9 in 1989 (which was well within one standard deviation of the 1947-1989 average of 12.8) to a high of 33 in 1998. At the height of the equity market (1998 to mid-2000), frequently described as a "speculative bubble", investors believed the only risk they faced was not being in the equity market. In mid-2000, the bubble burst, as the U.S. economy began to lose steam. The events of September 11, 2001, the threat of war, the loss of credibility on Wall Street, accounting misrepresentations and outright fraud, led to a loss of confidence in the market, and a sense of pessimism about the equity market. These events led to a heightened appreciation of the inherent risk of investing in the equity market, all of which have translated into a generally "bearish" outlook for the U.S. equity

market at the present time.[2] Despite this, the P/E ratio for the S&P 500 remains at an elevated level[3] relative to history. At the end of August 2002, the S&P 500 forward P/E ratio was 17.

In light of the impact of rising P/E ratios on the achieved total returns, an analysis of the equity returns achieved prior to 1990 was undertaken. That analysis indicates that the achieved equity returns for the S&P 500 averaged 12.3% (compound average) to 13.5% (arithmetic average) from 1947-1989. The corresponding returns from 1947-2001 were 12.4% (compound average) to 13.7% (arithmetic average). Hence, despite the increase in P/E ratios experienced from 1990 to mid-2000, the average returns have not changed materially. Consequently, it is not unreasonable to expect an equity market return of 12.0-13.0% in the future, which equates, at an expected long Treasury bond return of 6.0% (equal to the forecast yield) to an equity risk premium of 6-7%.

A review of Canadian equity returns over the same 1947-1989 period indicates similar results. The returns for the Canadian equity market were 11.9% (compound average) to 13.1% (arithmetic average), very similar to the U.S. returns. In relation to a long Canada bond return (yield) of 6.0%, the achievement of these returns in the future indicates an equity risk premium of 6-7%.

There are also analysts who believe nominal returns in the U.S. market should be lower in the future because inflation is expected to be lower than that experienced historically. (The average rate of inflation in the U.S. from 1947-1989 was 4.4%, compared to a forecast long-term rate of inflation of 2.5%.) That conclusion is derived from financial theory which says that the expected equity return would be comprised of a real risk-free rate, expected inflation and an equity risk premium.

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[2] Lowered expectations for the market at present are leading investors to focus elsewhere for superior risk/reward opportunities, e.g., real estate, suggesting that the expectations for the equity market at present may be out-of-line with return requirements.

[3] Current price/forecast 2003 earnings.

Consequently, theory would suggest that, all other things equal, future equity returns would be lower because future inflation is expected to be lower than that experienced over the past half century. However, as indicated in Table B-1 below, in reality, achieved equity market returns have tended to be negatively impacted by high rates of inflation, thus producing lower real returns and lower risk premiums when inflation was high and vice versa.

Table B-1

U.S. RISK PREMIUMS (1926-2001)								
Period	Description	Stock Returns	Bond Total Returns	Bond Income Returns	CPI Growth	GDP Growth	Risk Premiums:	
							Total Returns	Income Returns:
1926-1939	Pre-War, Market Crash, Deflation	9.8%	5.0%	3.1%	-1.6%	1.3% a/	4.8%	6.7%
1940-1951	Growth and Inflation, Early Post World War II	13.2	2.4	2.3	5.5	6.3	10.8	11.0
1952-1967	Steady Low Inflation, Robust Growth	14.8	1.6	3.6	1.6	3.8	13.2	11.2
1968-1982	Rising Inflation, Interest Rates, Stagflation	8.4	6.0	7.9	7.4	2.7	2.4	0.5
1983-1991	Falling Nominal and Real Interest Rates, Moderately High/Steady Inflation	17.8	13.6	9.4	3.9	3.5	4.2	8.4
1992-2001	Low Inflation and Interest Rates; Strong Growth	14.1	9.4	6.5	2.7	3.3	4.7	7.7

a/ 1930-1939

Source: Ibbotson Associates, *Stocks, Bonds, Bills and Inflation,* 2002 Yearbook; *Economic Indicators.*

Based on the above analysis, considering both compound and arithmetic average returns, and both the Canadian and U.S. data, a reasonable estimate of the equity risk premium is approximately 6.0-6.5%.

RELATIVE RISK ADJUSTMENT

The 6.0-6.5% market risk premium needs to be adjusted for the risk of a utility relative to that of the market as a whole. The Capital Asset Pricing Model (CAPM), a rigorous, formal model of the equity risk premium test premised on restrictive assumptions, holds that the investor need only be compensated for systematic, or non-diversifiable, risk.

In its simplest form, the CAPM posits the following relationship between the required return on the risk-free investment and the required return on an individual equity security (or portfolio of equity securities):

$$R_E = R_F + b_e (R_M - R_F)$$

where,

R_E	=	Required return on individual equity security
R_F	=	Risk-free rate
R_M	=	Required return on the market as a whole
b_e	=	Beta on individual equity security.

The CAPM relies on the premise that an investor requires compensation for non-diversifiable risks only. Non-diversifiable risks are those risks that are related to overall market factors (e.g., interest rate changes, economic growth). Company-specific risks, according to the CAPM, can be diversified away by investing in a portfolio of securities whose expected returns are not perfectly correlated. Therefore the shareholder requires no compensation to bear company-specific risks.

The non-diversifiable risk is captured in the beta, which, in principle, is a forward-looking (expectational) measure of the volatility of a particular stock or group of stocks, relative to the market. Specifically, the beta is equal to:

$$\frac{\text{Covariance } (R_E, R_M)}{\text{Variance } (R_M)}$$

The variance of the market return is intended to capture the uncertainty related to economic events as they impact the market as a whole. The covariance between the return on a particular stock and that of the market reflects how responsive the required return on an individual security is to changes in events which also change the required return on the market.

In the context of the CAPM, investor risk can be captured in a single variable, the stock "beta". The stock "beta" measures risk as the volatility of an individual stock or a portfolio of stocks relative to the volatility of the market.

The equity risk premium applicable to a particular stock or portfolio of stocks is equal to its stock "beta" multiplied by the market equity risk premium. Betas are typically measured by reference to historical relative volatility using simple regression analysis between the change in the market portfolio return and the corresponding change in an individual stock or portfolio of stock returns.

However, historic betas cannot simply be assumed to fully capture the risk for which investors require compensation. The body of evidence on CAPM leads to the conclusion that, while betas do measure relative volatility, the proportionate relationship between risk (beta) and return posited by the CAPM has not been established. For example, a number of empirical studies on CAPM have shown that the return requirement is higher (lower) than the CAPM would predict for a

low (high) beta stock. [4] Another study concluded the beta return relationship is flat.[5] To quote Burton Malkiel in *A Random Walk Down Wall Street*, New York: W. W. Norton & Co., 1999:

> Beta, the risk measure from the capital-asset pricing model, looks nice on the surface. It is a simple, easy-to-understand measure of market sensitivity. Unfortunately, beta also has its warts. The actual relationship between beta and rate of return has not corresponded to the relationship predicted in theory during the last third of the twentieth century. Moreover, betas are not stable from period to period, and they are very sensitive to the particular market proxy against which they are measured.
>
> I have argued here that no single measure is likely to capture adequately the variety of systematic risk influences on individual stocks and portfolios. Returns are probably sensitive to general market swings, to changes in interest and inflation rates, to changes in national income, and, undoubtedly, to other economic factors such as exchange rates. And if the best single risk estimate were to be chosen, the traditional beta measure is unlikely to be everyone's first choice. The mystical perfect risk measure is still beyond our grasp. (page 238).

The following table summarizes recent calculated ("raw") betas for individual major Canadian gas and electric utilities, the TSE Gas/Electric Index, and the S&P/TSX Utilities Index.[6]

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[4] Evidence is found in the following studies:

Fisher Black, Michael C. Jensen, and Myron S. Scholes "The Capital Asset Pricing Model: Some Empirical Tests," *Studies in the Theory of Capital Markets*, edited by Michael Jensen. (New York: Praeger, 1972), pp. 79-121.

Marshall E. Blume and Irwin Friend, "A New Look at the Capital Asset Pricing Model," *Journal of Finance*, Vol. XXVIII (March 1973), pp. 19-33.

Nancy Jacob, "The Measurement of Systematic Risk for Securities and Portfolios: Some Empirical Results," *Journal of Financial and Quantitative Analysis*, Vol. VI (March 1971), pp. 815-834.

[5] Eugene F. Fama and Kenneth R. French, "The Cross Section of Expected Stock Returns" *Journal of Finance,* Volume XLVII, No. 2, June 1992.

[6] The S&P/TSX Utilities Index was created in 2002, when the TSE 300 was revamped. The new Utilities Index is essentially an amalgamation of the former TSE Gas/Electric and Pipeline sub-indices.

TABLE B-2

Canadian Utility Betas (60 months ending in indicated year)								
	1995	1996	1997	1998	1999	2000	2001	6/2002
Six [1/] Electric/Gas Utilities (Median)	.50	.49	.45	.52	.35	.24	.16	.14
TSE 300 Gas/Electric Index	.52	.52	.46	.55	.38	.21	.20	NA
S&P/TSX Utilities Index	.67	.65	.53	.55	.30	.14	-.03	-.05

1/ B.C. Gas, Canadian Utilities, Emera, Enbridge Inc., Fortis and TransAlta.

Source: Schedule 11.

The observed recent decline in the measured utility betas in 1999-2002 can be traced to three factors: (1) the technology sector bubble in general; (2) the dominance in the TSE 300 of two firms during this period, Nortel Networks and BCE (together accounting for 35% of the TSE 300 in mid-2000); [7] and (3) the negative impact of rising interest rates on utility stocks as the rest of the equity market was soaring (See Chart 1 in Statistical Exhibit). As a result, the disparate movements in utility equities relative to the TSE 300 produced lower measured utility betas.

The decoupling between utility shares and the rest of the market during the technology bubble (and subsequent melt-down of Nortel and other high tech stocks) should not be interpreted as a change in the relative riskiness of utility shares, but rather as an indication of the weakness of beta as the sole measure of the relative return requirement.[8]

[7] The impact on the beta due solely to the dominance of Nortel Networks in the TSE 300 was estimated for the TSE Gas/Electric Index by excluding Nortel from the TSE 300 and recalculating the 1997-2001 beta. The recalculated beta was 0.37, versus 0.20 inclusive of Nortel.

[8] Schedule 11, page 3 shows that utilities were not the only companies whose betas were negatively impacted by the speculative bubble and subsequent market decline. To illustrate, the five-year beta ending 1997 of the Consumer Staples Sector was 0.62; the corresponding 1998-2002 beta was 0.08. In contrast, over the same periods, the beta of the Information Technology Sector rose from 1.57 to 2.17.

Utilities are interest-sensitive stocks and thus tend to move with interest rates, which frequently move counter to the equity market. Consequently, utility equity price movements are correlated not only with the stock market, but also with movements in the bond market. The interest-sensitivity of utility shares may not be fully captured in the calculated betas which simply measure the covariability between a stock and the equity market.[9]

Given the infirmities of beta, some recognition should be given to total market risk (including both diversifiable and non-diversifiable risk) as measured by the standard deviation of market returns. To compare the relative total risk of Canadian utilities, the monthly standard deviations[10] of total market returns for the S&P/TSX Index and for each of the 10 major Group Indices of the S&P/TSX Index were calculated, over recent five-year periods. The standard deviations for the Utilities Index show that the absolute volatility of utility stocks has risen significantly since the middle of the 1990s; the 1998-2002 standard deviation of returns for the Utilities Index was over 30% higher than the corresponding 1994-1998 value (Schedule 13).

The relative market volatility of Canadian utility stocks was measured by comparing the standard deviations of the Utilities Index to the standard deviations of the S&P/TSX Index and the average standard deviations of the 10 Group Indices. Table B-3 below shows the ratios of the standard deviations of the Utilities Index to those of the S&P/TSX Index and the 10 S&P/TSX Group Indices.

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[9] In theory, the beta should be measured against the entire "capital market" including short-term debt securities, bonds, real estate, etc. In practice, it is measured using the equity market only.

[10] The standard deviation measures the absolute volatility of the market returns, i.e., the extent to which the individual monthly returns vary from the average. To illustrate, if the average annual return is 10% and the standard deviation is 4%, two-thirds of the observed returns fall within a range of 6% to 14%.

TABLE B-3

Period	Standard Deviation of S&P/TSX Utilities Index as a Percent of:	
	Standard Deviation of S&P/TSX	Standard Deviation of 10 S&P/TSX Group Indices (Simple Average)
1993-1997	88%	64%
1994-1998	81%	65%
1995-1999	83%	63%
1996-2000	89%	69%
1997-2001	86%	67%
1997(2Q)-2002 (2Q)	87%	66%

Source: Schedule 13.

The standard deviations indicate some increase both in the absolute and relative volatility of Canadian utility shares since 1998 and provide further evidence that sole reliance on simple calculated (or "raw") betas would understate the required return for a regulated utility. The standard deviations suggest a relative risk factor of approximately 0.65.

It is of note that the same "decoupling" phenomenon was experienced by U.S. utilities. To illustrate this phenomenon, I relied on a sample of eight relatively "pure-play" U.S. natural gas distribution utilities (LDCs).[11] LDCs were selected rather than electric utilities to ensure exclusion of the impact of industry restructuring which has taken place in the U.S. LDCs have not been subject to the same degree of restructuring as electric utilities. The calculated or "raw" betas for the LDCs for the five-year period ended June 2002 were in the range of –0.08 to 0.27 (mean of 0.13 and median of 0.19). By comparison, their "raw" betas for the

[11] Identified on Schedule 12, criteria for selection described in Appendix C.

five-year period ended 1998 were 0.47, slightly lower than those of Canadian utilities (Schedule 12).

Schedule 12, page 1 shows that the most recent reported betas for the sample of U.S. LDCs are in the range of approximately 0.60-0.65 (as reported by *Value Line* and Bloomberg), considerably higher than the "calculated" or "raw" betas. Both investment advisory services, which are widely available to investors, adjust the calculated betas toward the market average beta, which is, by definition, 1.0.

It is of note that the recently reported *Value Line* betas are quite similar to those that *Value Line* reported in earlier years. The median betas for the sample have been in the range of 0.60-0.68 since 1993 (Schedule 12, page 2).

Table B-4 below shows the betas for Canadian utilities if adjusted in a manner similar to *Value Line* and Bloomberg.[12]

[12] Adjusted utility beta = 2/3 ("raw" beta) + 1/3 (market beta of 1.0).

TABLE B-4

60-Months Ending	Sample of Six Canadian Gas/Electric Utilities		TSE 300 Gas/ Electric Utility Index	S&P/TSX Utilities Index
	Average	Median		
1997	.63	.63	.64	.69
1998	.68	.68	.70	.70
1999	.57	.56	.58	.53
2000[1/]	.59	.59	.60	.56
2001[1/]	.54	.55	.58	.45
Average	**.60**	**.60**	**.62**	**.59**

1/ Based on betas calculated excluding Nortel Networks from the TSE 300 (now the S&P/TSX) Index.

Source: Schedule 11.

Based on the above analysis, a reasonable relative risk adjustment for an average risk Canadian utility is approximately 0.60-0.65.

APPENDIX C
DISCOUNTED CASH FLOW TEST

CONCEPTUAL UNDERPINNINGS

The discounted cash flow approach proceeds from the proposition that the price of a common stock is the present value of the future expected cash flows to the investor, discounted at a rate which reflects the riskiness of those cash flows. If the price of the security is known (can be observed), and if the expected stream of cash flows can be estimated, it is possible to approximate the investor's required return (or capitalization rate) as the rate which equates the price of the stock to the discounted value of future cash flows.

Theoretically, the cash flows extend to infinity. However, as the expected cash flows extend further into the future, their discounted value adds less and less to the price of the stock. Investors in common stocks are unlikely to forecast (or be able to forecast with any accuracy) cash flows beyond five years.

There are multiple versions of the discounted cash flow model available to estimate the investor's required return. An analyst can employ a constant growth model or a multiple period model to estimate the cost of equity. The constant growth model rests on the assumption that investors expect cash flows to grow at a constant rate throughout the life of the stock.

The assumption that investors expect a stock to grow at a constant rate over the long-term is most applicable to stocks in mature industries. Growth rates in these industries will vary from year to year and over the business cycle, but will tend to deviate around a long-term expected value. As a pragmatic matter, the application of a constant growth model is compatible with the likelihood that

investors do not forecast beyond five years. Hence, the current market price and dividend yield do not explicitly anticipate any changes in the outlook for growth.

The constant growth model is expressed as follows:

$$\text{Cost of Equity (k)} = \frac{D_1}{P_o} + g,$$

where,

D_1 = next expected dividend[1]
P_o = current price
g = constant growth rate

PROXY UTILITIES

The discounted cash flow test was applied to a sample of "pure play" U.S. local distribution companies that serve as a proxy for an average risk Canadian utility.

The sample of eight companies (listed on Schedule 12) is comprised of all local gas distributors:

(1) classified by *Value Line* as a gas distributor;

(2) with no less than 85% of assets devoted to natural gas distribution operations;

(3) whose Standard & Poor's debt rating is A- or higher; and,

(4) for which at least three analysts' long-term earnings growth rate forecasts are available from the major data bases that provide long-term consensus forecasts, i.e., I/B/E/S International and Zacks, to ensure that the results capture the market view, and not simply the view of a single analyst.[2]

[1] Alternatively expressed as $D_0 (1 + g)$, where D_0 is the most recently paid dividend.
[2] Zacks Investment Research compiles, analyzes and distributes on-line investment research for individuals and institutional investors.

INVESTOR GROWTH EXPECTATIONS

The growth component of the DCF model is an estimate of what investors expect over the longer-term. For a regulated utility, whose growth prospects are tied to allowed returns, the estimate of growth expectations is subject to circularity because the analyst is, in some measure, attempting to project what returns the regulator will allow, and the extent to which the utilities will exceed or fall short of those returns. To mitigate that circularity, it is important to rely on proxies, rather than the subject company. Further, to the extent feasible, one should rely on estimates of longer-term growth readily available to investors, rather than superimpose on the analysis one's own views of what growth should be.

The estimates of investor growth expectations rely on consensus forecasts of long-term earnings growth. Specifically, the two widely available sources referenced above in conjunction with the sample selection criteria, I/B/E/S International and Zacks, were utilized. Historic growth rates were not utilized, for several reasons:

First, various studies have concluded that analysts' forecasts are a better predictor of growth than naïve forecasts equivalent to historic growth; moreover, analysts' forecasts have been shown to be more closely related to investor's expectations than historic growth rates.[3] .

Second, to the extent history is relevant in deriving the outlook for earnings, it should already be reflected in the forecasts. Therefore, reliance on historic growth rates is at best redundant, and, at worst, potentially double counting growth rates which are irrelevant to future expectations.

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[3] Empirical studies that conclude that investment analysts' growth forecasts serve as a better surrogate for investors expectations than historic growth rates include Lawrence D. Brown and Michael S. Rozeff, "The Superiority of Analyst Forecasts as Measures of Expectations: Evidence from Earnings", *The Journal of Finance*, Vol. XXXIII, No. 1, March 1978; Dov Fried and Dan Givoly, "Financial Analysts Forecasts of Earnings, A Better Surrogate for Market Expectations", *Journal of Accounting and Economics,* Vol. 4 (1982); R. Charles Moyer, Robert E. Chatfield, Gary D. Kelley, "The Accuracy of Long-Term Earnings Forecasts in the Electric Utility Industry", *International Journal of Forecasting* Vol. I (1985); Robert S. Harris, "Using Analysts' Growth Forecasts to Estimate Shareholder Required Rates of Return", *Financial Management*, Spring 1986, and, James H. Vander Weide and William T. Carleton, "Investor Growth Expectations: Analysts vs. History", *The Journal of Portfolio Management*, Spring 1988; David Gordon, Myron Gordon and Lawrence Gould, "Choice Among Methods of Estimating Share Yield," *The Journal of Portfolio Management,* Spring 1989.

The Vander Weide and Carleton study cited

> "found overwhelming evidence that the consensus analysts' forecast of future growth is superior to historically oriented growth measures in predicting the firm's stock price [and that these results] also are consistent with the hypothesis that investors use analysts' forecasts, rather than historically oriented growth calculations, in making stock buy-and-sell decisions."

The Gordon, Gordon and Gould study concluded,

> "...the superior performance by KFRG [forecasts of [earnings] growth by securities analysts] should come as no surprise. All four estimates [securities analysts' forecasts plus past growth in earnings and dividends and historic retention growth rates] rely upon past data, but in the case of KFRG a larger body of past data is used, filtered through a group of security analysts who adjust for abnormalities that are not considered relevant for future growth."

Third, to the extent that restructuring in the industry has altered investors' growth expectations relative to history, historical growth rates are highly suspect as a measure of investor expectations.

Fourth, reliance on historic growth rates to measure investor expectations to some extent renders the replication of that growth a self-fulfilling prophesy.

Reliance on long-term earnings forecasts in the context of a constant growth DCF test recognizes that the two sources of cash flows to the investor, dividends and capital appreciation, must be generated from earnings. The latter results from replowing, or retaining, earnings.

APPLICATION OF THE CONSTANT GROWTH DCF MODEL.

The DCF model was applied to the sample of U.S. LDCs using the following inputs:

(1) the annualized dividend paid during the three months ending August 31, 2002 as D_0;

(2) the average of the monthly high and low prices for the three months ending August 31, 2002 as P_0; and,

(3) the average of the most recent 2002 I/B/E/S and Zacks consensus earnings growth forecasts to estimate "g" in the growth component and to adjust the current dividend yield to the expected dividend yield.

Based on both the mean and median DCF costs of equity for the sample, the estimated required return on the current (market) value of common equity is 11.4-11.5% (Schedule 16).

The reasonableness of the previous results were tested using *Value Line* longer-term (2005-2007) forecast sustainable growth rates.

Sustainable growth, or earnings retention growth, is premised on the notion that future dividend growth depends on the firm reploughing or retaining a portion of its earnings, in order to produce dividends in the future. The sustainable growth rate is estimated as the expected return on equity multiplied by the fraction of earnings expected to be retained, expressed as:

$$g = b(r)$$

where:

g	=	growth
b	=	fraction of earnings retained
r	=	expected return on equity

As shown in detail on Schedule 17, using the sustainable growth estimates, the sample median DCF cost was 11.2%; the sample mean was 11.7%.

APPENDIX D
COMPARABLE EARNINGS TEST

PRINCIPAL APPLICATION ISSUES

The principal issues in the application of the comparable earnings test are:

- The selection of a sample of industrials of reasonably comparable risk to an average risk Canadian utility.
- The selection of an appropriate time period over which returns are to be measured in order to estimate prospective returns.
- The need for an adjustment to the "raw" comparable earnings results to reflect the differential risk of an average risk Canadian utility relative to the selected industrials.

CANADIAN INDUSTRIAL RETURNS

Selection of Canadian Industrials

The selection process starts with the recognition that industrials are generally exposed to higher business risk, but lower financial risk, than an average risk Canadian utility. The selection of industrials focuses on total investment risk, i.e., the combined business and financial risks. The comparable earnings test is based on the premise that industrials' higher business risks can be offset by a more conservative capital structure, thus permitting selection of industrial samples of reasonably comparable investment risk to an average risk Canadian utility.

Utilities are generally characterized by relatively low volatility with respect to both earnings and stock market performance. Consequently, the initial universe

(275 companies) was comprised of all companies in the S&P/TSX Index in Global Industry Classification Standard (GICS) sectors 20-30. The sectors represented by the GICS codes in this range are: Industrials, Consumer Discretionary and Consumer Staples.[1] The resulting sample contained 90 firms.

From this group of 90 companies,[2] all firms with missing book equity or negative common equity during the period 1990-2001, and/or missing market data (December 1996 to December 2001) were removed, as were all companies which paid no dividends in any year 1992-2001. To ensure that low risk companies were selected, all companies with betas over 0.70 were removed, as well as any companies whose stock is ranked Higher Risk by the Canadian Business Service (CBS).[3] The final sample of low risk Canadian industrials is comprised of 15 companies (Schedule 18).[4]

Time Period for Measuring Returns

Since industrials' returns on equity tend to be cyclical, the appropriate period for measuring industrial returns should encompass an entire business cycle, covering years of both expansion and decline. That cycle should be representative of a future normal cycle, e.g., similar in terms of inflation and real economic growth. Over the past trough-to-trough business cycle (1992-2001), the experienced returns on equity of the sample of 15 industrials were as follows.

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[1] Included in these sectors are major industries such as: Food Retail, Food Distributors, Tobacco, Packaged Foods, Soft Drinks, Distillers, Household Appliances, Aerospace and Defense, Electrical Components & Equipment, Industrial Machinery, Publishing & Printing, Department Stores, and General Merchandise

[2] SNC-Lavalin was removed due to its recent purchase of regulated electric transmission assets in Alberta.

[3] Canadian Business Service (CBS) ranks stocks "Very Conservative", "Conservative", "Average", "Higher Risk", or "Speculative".

[4] In light of the controversy surrounding the use of coefficients of variation (COVs) as a relative risk measure, I have eliminated reliance on COVs as a selection criterion.

Average:	14.0%
Median	13.4%
Average of annual medians:	12.7%

Source: Schedule 18.

Focusing on the median values, the returns are in the approximate range of 12.75-13.5%.

The average economic growth during this cycle was 3.2%, compared to the consensus forecast growth rate of approximately 3.0% for the next decade (2002-2012).[5] Prospective longer-term Canadian inflation is forecast to average 1.9% (CPI),[6] only slightly higher than the average level achieved during the 1992-2001 business cycle (1.7%). The moderately lower expected real growth, but similar inflation relative to the past business cycle, indicate that the experienced returns on book equity, absent extraordinary events, provide a reasonable, and potentially conservative, proxy for the future.

This conclusion is supported by the increase in the level of returns achieved during the cycle, from 10.5% (based on the average of annual medians) in 1992-1995 to 14.2% in 1996-2001. The 1992-1996 average of 10.5% reflects in part the effect of the prolonged recession and restructuring. The more recent average (1996-2001) return of 14.2% reflects a level of returns similar to those achieved during the prior (1983-1991) business cycle.

[5] Consensus Economics, *Consensus Forecasts*, April 2002.
[6] Consensus Economics, *Consensus Forecasts*, April 2002.

Risk Comparison

With respect to the relative investment risk of the Canadian industrials compared to utilities, the business risk of the industrials exceeds that of utilities; however, this difference is largely offset by the industrials' significantly lower financial risk resulting from higher equity ratios (57% in 2001 compared to approximately 40% on average for Canadian gas and electric utilities) (See Schedules 6 and 19). Comparisons of the industrials' and utilities' bond ratings and stock ratings indicate that they are in a similar risk class. The median CBS stock rating for the industrials is "Very Conservative", equal to the median for a sample of six investor-owned Canadian gas and electric utilities with publicly-traded stock.[7] The median S&P and DBRS debt ratings for the industrials are BBB+ and A(low) respectively, compared to the utilities' median ratings of BBB+/A- and A (See Schedules 5 and 19).

The recent median adjusted beta for the industrials was 0.56, compared to the longer-term beta for the utilities of 0.60-0.65 (See Schedules 11 and 19). Based on these comparisons, on balance, the Canadian industrials and utilities are of similar investment risk. Consequently, the industrial returns require no adjustment for differential risk compared with an average risk Canadian utility. As a result, the comparable earnings test applied to Canadian industrials indicates a return in the range of approximately 12.75-13.5%.

Impact of Changes in Corporate Income Tax Rates

The after-tax returns achieved over the past cycle reflect higher corporate tax rates than projected for the future. The average actual tax rate for the sample over the 1991-2000 period was 38%. With the reduction in federal tax rates to 21% by 2004 and in provincial rates (potentially to 8% in Alberta and Ontario), the after-

[7] BC Gas, Canadian Utilities, Enbridge Inc., Emera, Fortis and TransAlta Corporation.

tax returns, all other things equal, will be higher. To illustrate, a 12% after-tax return on equity at a 38% combined federal/provincial tax rate is equivalent to a pre-tax return of 19.4%. A reduction in the effective corporate tax rate from 38% to 29% increases the after-tax return to 13.8%. Hence, the historic after-tax returns on equity are a conservative measure of future after-tax returns.

U.S. INDUSTRIAL RETURNS

The returns of U.S. industrials offer a further perspective on the opportunity cost foregone by Canadian investors. These returns are pertinent not only because there is a relatively small number of low risk industrials in Canada but also because of the increasing globalization of markets and, specifically, the close connection between the U.S. and Canadian economies and capital markets.

Selection of U.S. Industrials

The initial universe (248 companies) was comprised of all *Value Line* companies with betas plus or minus 0.10 around the recent average beta of the eight company U.S. LDC sample, i.e., 0.60 ± 0.10. The initial selection was further limited to consumer-oriented industries (SIC codes 2000-3999 and 5000-5999).[8]

[8]The major industrials represented by these SIC codes are: Food and Kindred Products, Tobacco Products, Textiles, Lumber and Wood Products, Paper Products, Petroleum Refining, Chemicals, Rubber, Plastics, Glass, Concrete, Primary Metals, Fabricated Metals, Industrial/Commercial Machinery, Transportation Equipment, Computer and Electronic Equipment, Measuring Equipment, Wholesale and Retail Operations for both durable and non-durable goods.

From this group of 134 companies, all non-U.S. firms and all firms with *Value Line* Safety Ranks[9] of "4" or higher were eliminated, leaving 117 companies. Subsequently, only firms with book data available since 1991, market data available since December 1996 and non-negative common equity throughout the period were selected. This resulted in 100 companies. From the group of 100, 16 companies whose 1991-2000 average returns were above or below one standard deviation from the average were eliminated in order to exclude companies whose earnings are either extraordinarily profitable or chronically depressed. The final sample contains 84 companies and is found on Schedule 20.

Returns on Equity for U.S. Industrials

The achieved returns of the 84 U.S. companies for 1992-2001 are as follows:

Average	14.3%
Median	14.0%
Average of Annual Medians	14.7%

Source: Schedule 20.

[9] *Value Line*'s definition of Safety Rank is as follows:

> A measure of potential risk associated with individual common stocks rather than large diversified portfolios (for which Beta is a good risk measure). Safety is based on the stability of price, which includes sensitivity to the market (see Beta) as well as the stock's inherent volatility, adjusted for trend and other factors including company size, the penetration of its markets, product market volatility, the degree of financial leverage, the earnings quality, and the overall condition of the balance sheet. Safety Ranks range from 1 (Highest) to 5 (Lowest). Conservative investors should try to limit purchases to equities ranked 1 (Highest) or 2 (Above Average) for Safety.

Impact of Corporate Income Tax Rates

In past evidence, the results of the comparable earnings test applied to U.S. industrials were adjusted for differential Canadian/U.S. corporate tax rates (higher income tax rates lower the after-tax returns on equity). It is no longer necessary to adjust the achieved returns of the low risk U.S. industrials to reflect differences in corporate income tax rates in the U.S. relative to Canada. In 2000 the Government of Canada announced that the general corporate tax rate would be reduced from 28% to 21% by 2004. The combined effect of federal corporate tax cuts and similar changes by some of the provinces will be to reduce the average Canadian general corporate tax rate to 5 percentage points below that of the U.S. by 2005.[10]

Risk Comparison

The following table provides a risk comparison between the samples of U.S. industrials and the U.S. LDCs which serve as a proxy for an average risk Canadian utility.

	S&P Debt Ratings	Value Line			
		Safety Rank	Earnings Predictability	Financial Strength	Beta
		median			
Industrials	A-	3	65	B+	0.59
LDCs	A	2	68	B++	0.60

Source: Schedules 15 and 21.

[10] Federal Corporate Tax Rate Reductions: Department of Finance Canada, January 2002.

The comparison indicates that the industrials are of somewhat higher investment risk than the LDCs. Consequently, a fair return for an average risk Canadian utility would be at the lower end of the range of returns for the sample of industrials, i.e., at no less than 14.0%.

CONCLUSIONS

The estimate of a normal cycle average level of returns for low risk Canadian industrials is in the range of 12.75-13.5%. Since the level of investment risk faced by the industrials is similar to that of an average risk Canadian utility, no risk adjustment to those returns is required.

The returns for the U.S. industrials are in the range of 14.0-14.7%; the somewhat higher investment risk of the industrials relative to an average risk Canadian utility warrants a return at the lower end of the range, i.e., no less than 14.0%. Giving primary weight to the results for the Canadian industrials, the comparable earnings test indicates a return in the range of approximately 12.75-13.25%.

NEWFOUNDLAND POWER

STATISTICAL EXHIBIT

to accompany
PREPARED TESTIMONY

of

KATHLEEN C. McSHANE

FOSTER ASSOCIATES, INC.
Bethesda, Maryland 20814

October 2002

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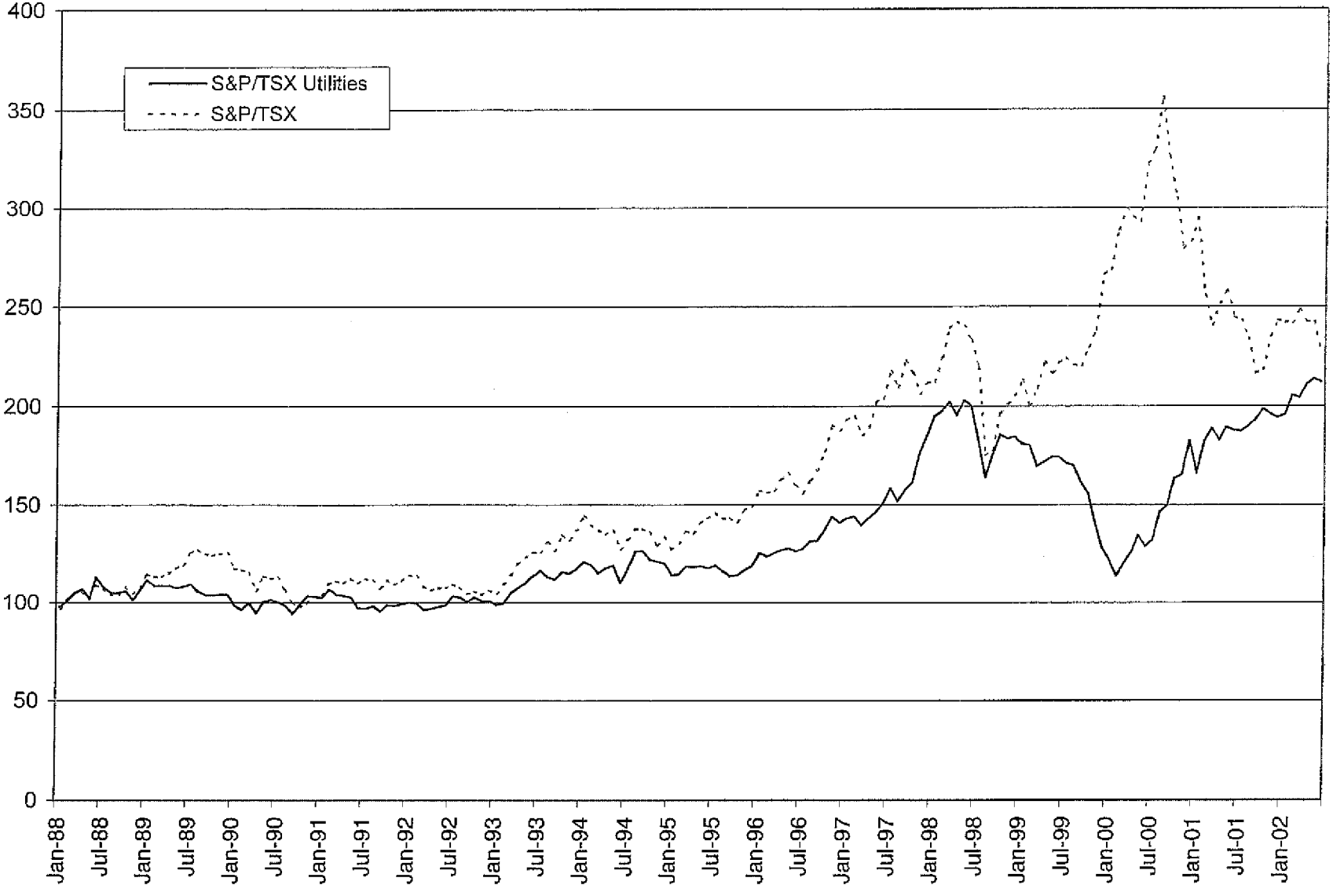
CHART 1

Trend in S&P/TSX Utilities and S&P/TSX Price Indices



SCHEDULE 1

TREND IN INTEREST RATES AND OUTSTANDING BOND YIELDS
(Percent Per Annum)

Year		Government Securities										Exchange Rates (Canadian dollars in U.S. funds)
		3-Month Bills		10-Year Bonds		Long-Term Bonds		Canada Bonds Over 10 Years	Canadian Inflation Indexed Bonds	Scotia Capital Long-Term Corporates	Canadian A-Rated Utility Bonds d/	
		Canadian	U.S. a/	Canadian	U.S.	Canadian	U.S. b/	Bonds c/				
1976		8.87	5.00		7.61		7.86	9.18			10.61	1.01
1977		7.33	5.26		7.42		7.67	8.70			9.95	0.94
1978		8.68	7.22		8.41		8.49	9.28			10.16	0.88
1979		11.68	10.04		9.44		9.29	10.21			11.08	0.85
1980		12.80	11.51		11.46		11.30	12.48			13.46	0.86
1981		17.72	14.08		13.91		13.44	15.22			16.26	0.83
1982		13.62	10.69	13.69	13.00	14.13	12.76	14.26			15.84	0.81
1983		9.32	8.63	11.43	11.10	12.08	11.18	11.79			12.85	0.81
1984		11.06	9.56	12.73	12.44	13.00	12.39	12.75			13.56	0.77
1985		9.43	7.49	10.83	10.62	11.20	10.79	11.04			11.71	0.73
1986		8.97	5.97	9.12	7.68	9.30	7.80	9.52			10.42	0.72
1987		8.15	5.82	9.50	8.39	9.75	8.59	9.95			11.00	0.75
1988		9.48	6.69	9.83	8.85	10.05	8.96	10.24			11.20	0.81
1989		12.04	8.12	9.80	8.49	9.66	8.45	9.92			11.05	0.84
1990		12.80	7.51	10.76	8.55	10.69	8.61	10.85		11.91	12.13	0.86
1991		8.73	5.42	9.42	7.86	9.72	8.14	9.76		10.80	11.00	0.87
1992		6.59	3.45	8.05	7.01	8.68	7.67	8.77	4.62	9.90	10.01	0.83
1993		4.84	3.02	7.22	5.87	7.86	6.59	7.85	4.28	8.85	9.08	0.77
1994		5.54	4.34	8.43	7.08	8.69	7.37	8.63	4.41	9.44	9.81	0.73
1995		6.89	5.44	8.08	6.58	8.41	6.88	8.28	4.68	9.02	9.29	0.73
1996		4.21	5.04	7.20	6.44	7.75	6.73	7.50	4.61	8.11	8.10	0.73
1997		3.26	5.11	6.11	6.32	6.66	6.58	6.42	4.14	6.95	6.94	0.72
1998		4.73	4.79	5.30	5.26	5.59	5.54	5.47	4.02	6.22	6.16	0.67
1999		4.69	4.70	5.55	5.69	5.72	5.91	5.69	4.07	6.64	6.64	0.67
2000		5.45	5.85	5.89	5.98	5.71	5.88	5.89	3.69	7.13	7.02	0.67
2001		3.78	3.34	5.49	4.99	5.78	5.51	5.76	3.59	7.09	7.25	0.65
2000	Jan	5.05	5.39	6.44	6.68	6.27	6.49	6.36	4.02	7.31	7.44	0.69
	Feb	4.96	5.67	6.19	6.38	5.83	6.15	5.98	3.92	7.06	6.98	0.69
	Mar	5.27	5.70	6.03	6.13	5.84	5.84	5.96	3.80	7.04	6.58	0.69
	Apr	5.43	5.62	6.10	6.15	5.92	5.97	6.03	3.64	7.19	7.10	0.68
	May	5.67	5.73	6.00	6.42	5.63	6.02	5.94	3.81	7.24	7.09	0.67
	June	5.53	5.68	5.93	6.08	5.61	5.90	5.90	3.77	7.21	6.95	0.68
	July	5.61	6.01	5.86	6.04	5.53	5.79	5.83	3.65	7.09	6.93	0.68
	Aug	5.58	6.11	5.77	5.75	5.55	5.67	5.79	3.67	7.04	6.85	0.67
	Sep	5.56	6.03	5.75	5.82	5.67	5.88	5.84	3.60	7.07	7.09	0.66
	Oct	5.61	6.18	5.72	5.74	5.61	5.79	5.79	3.52	7.14	7.18	0.65
	Nov	5.62	6.21	5.54	5.48	5.51	5.60	5.63	3.51	7.11	7.11	0.65
	Dec	5.49	5.89	5.35	5.12	5.56	5.46	5.59	3.42	7.04	7.16	0.65
2001	Jan	5.24	4.99	5.46	5.19	5.73	5.54	5.71	3.37	7.06	7.23	0.67
	Feb	5.03	4.73	5.48	4.90	5.75	5.33	5.63	3.40	6.98	7.10	0.65
	Mar	4.62	4.20	5.39	4.97	5.80	5.46	5.74	3.47	7.11	7.23	0.64
	Apr	4.44	3.95	5.78	5.34	6.02	5.78	6.01	3.61	7.23	7.39	0.65
	May	4.37	3.71	5.82	5.41	5.94	5.78	5.98	3.55	7.36	7.43	0.65
	June	4.32	3.65	5.90	5.42	6.01	5.75	6.10	3.53	7.15	7.37	0.66
	July	4.11	3.54	5.65	5.07	5.91	5.51	5.98	3.59	7.25	7.24	0.65
	Aug	3.80	3.35	5.36	4.64	5.69	5.48	5.73	3.69	6.93	7.08	0.65
	Sept	3.08	2.38	5.33	4.59	5.86	5.48	5.81	3.69	7.20	7.38	0.63
	Oct	2.35	2.05	4.86	4.25	5.31	5.27	5.31	3.60	6.73	7.20	0.63
	Nov	2.06	1.78	5.36	4.79	5.59	5.24	5.56	3.67	7.06	7.09	0.63
	Dec	1.91	1.74	5.44	5.07	5.69	5.48	5.59	3.76	7.05	7.29	0.63
2002	Jan	1.96	1.76	5.44	5.07	5.68	5.44	5.74	3.73	6.88	7.12	0.63
	Feb	2.06	1.79	5.33	4.88	5.70	5.42	5.70	3.72	6.87	7.23	0.62
	Mar	2.27	1.79	5.78	5.42	5.97	5.98	6.00	3.68	7.15	7.35	0.63
	Apr	2.40	1.77	5.61	5.11	5.90	5.73	5.87	3.60	7.02	7.20	0.64
	May	2.61	1.74	5.50	5.08	5.79	5.76	5.77	3.53	6.97	7.16	0.65
	June	2.71	1.70	5.43	4.86	5.81	5.67	5.80	3.43	6.99	7.06	0.66
	July	2.81	1.71	5.23	4.51	5.73	5.45	5.70	3.45	7.19	7.32	0.63
	Aug	2.94	1.69	5.08	4.14	5.51	5.08	5.48	3.39	6.99	7.20	0.64

a/ Rates on new issues.

b/ 20-year constant maturities for 1974-1978; 30-year maturities 1979-2001, long-term average (25 years and above), February 2001 forward. Series represents yields on the more actively traded issues adjusted to constant maturities by the U.S. Treasury based on daily closing bids.

c/ Terms to maturity of 10 years or more.

d/ Series is comprised of the CBRS Utilities Index through August 2000 (average of 10-, 20-, and 30-year bonds); September 2000 to the present is the average yield on series of liquid long-term utility bonds maintained by Foster Associates.

Note: Monthly data reflect rate in effect at end of month.

Source: Bank of Canada Review; CBRS; Globe and Mail; Annual Statistical Digest (Federal Reserve System); Federal Reserve Bulletin (various issues).

SELECTED INDICATORS OF ECONOMIC ACTIVITY
(1989 = 100)

Year		Canada					United States				
		Gross Domestic Product					Gross Domestic Product				
		Constant Dollars (1)	Current Dollars (2)	Industrial Production (3)	GDP Deflator Index (4)	Consumer Price Index (5)	Constant Dollars (6)	Current Dollars (7)	Industrial Production (8)	Implicit Price Index a/ (9)	Consumer Price Index (10)
1989		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1990		100.2	103.4	97.2	103.2	104.8	102.1	105.7	99.8	103.6	105.4
1991		98.1	104.2	93.8	106.2	110.7	101.6	109.1	97.9	107.3	109.8
1992		99.0	106.5	95.0	107.2	112.3	104.7	115.1	100.9	109.9	113.2
1993		101.3	110.6	99.6	109.2	114.4	107.5	121.0	104.4	112.6	116.5
1994		106.1	117.2	105.8	110.4	114.6	111.9	128.5	110.1	114.9	119.5
1995		109.1	123.2	110.6	112.9	117.1	114.8	134.8	115.4	117.4	122.9
1996		110.9	127.2	118.9	114.7	118.9	118.9	142.3	120.6	119.7	126.5
1997		115.6	134.2	118.3	116.1	120.8	124.2	151.5	128.9	121.7	129.5
1998		120.3	139.1	122.3	115.6	122.0	129.6	160.1	135.2	123.5	131.5
1999		124.5	149.1	129.1	117.6	124.1	134.9	168.9	140.9	125.2	134.4
2000		130.1	161.1	136.3	122.2	127.5	140.4	179.9	148.8	128.1	138.9
2001		132.1	166.1	132.3	123.5	130.8	140.3	186.0	141.7	130.9	142.8
1999	1Q	122.1	138.1	126.3	99.9	122.6	133.0	165.7	135.8	124.6	132.9
	2Q	123.5	147.0	127.4	101.0	123.9	133.5	166.9	137.3	125.0	134.0
	3Q	125.2	155.3	130.8	101.9	124.8	135.1	169.4	139.0	125.4	134.9
	4Q	127.2	155.9	132.1	102.2	125.2	137.8	173.5	141.2	125.9	135.9
2000	1Q	128.5	151.6	134.8	103.8	125.9	138.6	176.1	143.0	127.1	137.0
	2Q	129.4	160.9	136.3	105.2	127.0	140.5	179.6	145.8	127.8	138.5
	3Q	131.0	168.3	137.4	105.8	128.2	141.0	181.0	146.9	128.4	139.6
	4Q	131.6	166.9	136.7	106.0	129.1	141.6	182.7	149.3	129.0	140.3
2001	1Q	131.8	161.0	134.5	107.3	129.4	140.3	184.8	144.7	130.0	141.7
	2Q	131.9	167.5	133.9	107.3	131.5	140.0	185.9	142.6	130.7	143.2
	3Q	131.8	168.8	131.3	105.9	131.6	139.9	186.3	141.0	131.4	143.4
	4Q	132.7	167.0	129.6	104.7	130.5	140.8	187.0	138.6	131.4	143.0
2002	1Q	134.7	161.6	132.7	105.6	131.3	142.5	190.0	139.4	131.7	143.5

Source: Statistics Canada, National Income and Expenditures Accounts, Canadian Statistical Review; U.S. Department of Commerce, Business Statistics Survey of Current Business.

Note: Data are based on Chain Weighted Indexes.

ECOIND

EQUITY RETURN AWARDS AND CAPITAL STRUCTURES ADOPTED BY
REGULATORY BOARDS FOR INVESTOR-OWNED CANADIAN UTILITIES
(Percentages)

	Decision Date (1)	Order/ File Number (2)	Debt (3)	Preferred Stock (4)	Deferred Taxes (5)	Common Stock Equity (6)	Equity Return (7)	Forecast 30-Year Bond Yield (8)
Electrics								
Aquila Networks Canada (B.C.) Inc	11/01	L-62-01	58.90	0.00	1.10	40.00	9.53	5.63
ATCO Electric a/	10/97	U97065	48.10	16.20		35.70	11.25	7.75
Maritime Electric b/	10/01	EC2001-608	--	--		40.00	11.00	N/A
Newfoundland Power	12/01	PU 30(2000-2001)	53.55	1.93		44.52	9.05	5.50
Nova Scotia Power	3/96	NSUARB-P-868	55.0-59.0	8.0-10.0		33.0-35.0	10.50-11.00	7.50 d/
TransAlta Utilities (Integrated) c/	11/99	U99099	49.50	9.50		41.00	9.25	5.75
Generation	11/99	U99099	50.50	9.50		40.00	9.25	5.75
Transmission	11/99	U99099	55.50	9.50		35.00	9.25	5.75
Distribution	11/99	U99099	36.00	9.50		54.50	9.25	5.75
Gas Distributors								
Atco Gas and Pipelines	12/01	2001-96	54.25	6.52		39.23	9.75	6.00
B.C. Gas	11/01	L-62-01	57.64	9.36		33.00	9.13	5.63
Enbridge Gas Distribution Inc	5/01	RP-2000	61.81	3.19		35.00	9.54	5.77
Gaz Metropolitain	9/02	D-2002-196	54.00	7.50		38.50	9.89	6.07
Northwestern Utilities	1/94	E-94001	38.74	26.74		34.52	11.875	8.00
Pacific Northern Gas	11/01	L-62-01	60.58	3.41		36.00	9.88	5.63
Union Gas	1/99; 7/01	RP-1999-0017	61.09	3.91		35.00	9.95	6.11
Gas Pipelines								
Alberta Natural Gas	12/01	RH-2-94	70.00	0.00		30.00	9.53	5.63
Foothills Pipe Lines (Yukon) Ltd.	12/01	RH-2-94	70.00	0.00		30.00	9.53	5.63
TransCanada PipeLines	12/01	RH-3-94	60.88	9.12		30.00	9.53	5.63
Trans Quebec & Maritimes Pipeline	12/01	RH-2-94	70.00	0.00		30.00	9.53	5.63
Westcoast Energy	12/01	RH-2-94	63.39	1.61		35.00	9.53	5.63

a/ Superseded by settlements for 1999/2000, and 2001/2002; ROEs and capital structures not specified.
b/ Maritime Electric's ROE and common equity ratio are set by legislation.
c/ Superseded by subsequent settlements and sale of distribution assets to Utilicorp Networks Canada (Alberta); ROE and capital structure not specified.
d/ Inferred from decision.

Source: Board Decisions.

GERET

RATES OF RETURN ON COMMON EQUITY ADOPTED BY REGULATORY BOARDS FOR INVESTOR-OWNED CANADIAN UTILITIES

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Electrics													
Aquila Networks Canada (B.C.) Inc	13.50	NA	11.75	11.50	11.00	12.25	11.25	10.50	10.25	9.50	10.00	9.75	9.53
ATCO Electric	13.50	13.50	13.25	11.88	NA	NA	11.25	a/	a/	a/	a/	a/	a/
Newfoundland Power	13.95	13.25	NA	NA	NA	NA	11.00	NA	9.25	9.25	9.59	9.59	9.05
Nova Scotia Power	--	--	--	11.75	NA	NA	10.75	NA	NA	NA	NA	NA	NA
TransAlta Utilities	13.50	13.50	13.25	11.88	NA	12.25	11.25	a/	b/	9.25	9.25	NA	NA
Average of Electrics	**13.61**	**13.42**	**12.75**	**11.75**	**11.00**	**12.25**	**11.10**	**10.50**	**9.75**	**9.33**	**9.61**	**9.67**	**9.29**
LDCs													
BC Gas Utility	NA	NA	12.25	NA	10.65	12.00	11.00	10.25	10.00	9.25	9.50	9.25	9.13
Canadian Western / AGPL	13.25	13.25	12.25	12.25	NA	NA	NA	NA	10.50	9.38	NA	NA	9.75
Centra Gas Ontario	13.50	13.75	13.50	12.50	11.85	12.13	NA	11.25	10.69	c/	c/	c/	c/
Enbridge Gas Distribution Inc	13.25	13.13	13.13	12.30	11.60	11.65	11.88	11.50	10.30	9.51	9.73	9.54	NA
Gaz Metro	14.25	14.25	14.00	12.50	12.00	12.00	12.00	11.50	10.75	9.64	9.72	9.60	9.67
Northwestern Utilities	NA	13.75	13.75	11.88	11.88	NA	NA	NA	NA	NA	NA	NA	NA
Pacific Northern Gas	15.00	14.00	13.25	NA	11.50	12.75	11.75	11.00	10.75	10.00	10.25	10.00	9.88
Union Gas	13.75	13.50	13.50	13.00	12.50	11.75	11.75	11.00	10.44	9.61	9.95	9.95	NA
Average of LDCs	**13.83**	**13.66**	**13.20**	**12.40**	**11.71**	**12.05**	**11.68**	**11.08**	**10.49**	**9.56**	**9.83**	**9.67**	**9.61**
Gas Pipelines													
Foothills	14.25	14.25	14.25	12.50	11.50	12.25	11.25	10.67	10.21	9.58	9.90	9.61	9.53
TransCanada	13.25	13.50	13.25	12.25	11.25	12.25	11.25	10.67	10.21	9.58	9.90	9.61	9.53
Westcoast Energy	13.25	13.75	12.50	12.25	11.50	12.25	11.25	10.67	10.21	9.58	9.90	9.61	9.53
Average of Gas Pipelines	**13.58**	**13.83**	**13.33**	**12.33**	**11.42**	**12.25**	**11.25**	**10.67**	**10.21**	**9.58**	**9.90**	**9.61**	**9.53**
Average of All Companies	**13.71**	**13.64**	**13.13**	**12.19**	**11.57**	**12.14**	**11.36**	**10.90**	**10.30**	**9.51**	**9.79**	**9.65**	**9.51**

Note: A rate freeze was in effect for BC Gas in 1990 and 1991, BCUC regulation resumed in late 1991.
Nova Scotia Power was privatized in 1992.

a/ Negotiated settlement, details not available.
b/ Negotiated settlement, implicit ROE made public is 10.5%.
c/ Merged with Union Gas.

Source: Regulatory Decisions

HAR

COMPARISON BETWEEN ALLOWED EQUITY RISK PREMIUM FOR CANADIAN AND US UTILITIES

	Canadian Utilities			U.S. Utilities		
Year	Allowed ROE	Average Long Canada Yield	Equity Risk Premium	Allowed ROE	Average Long Treasury Yield 2/	Equity Risk Premium
1990	13.71	10.69	3.02	12.69	8.61	4.08
1991	13.64	9.72	3.92	12.51	8.14	4.37
1992	13.13	8.68	4.45	12.06	7.67	4.39
1993	12.19	7.86	4.33	11.37	6.59	4.78
1994	11.57	8.69	2.88	11.34	7.37	3.97
1995	12.14	8.40	3.74	11.51	6.88	4.63
1996	11.36	7.75	3.61	11.29	6.73	4.56
1997	10.90	6.66	4.24	11.34	6.58	4.76
1998	10.30	5.59	4.71	11.59	5.54	6.05
1999	9.51	5.72	3.79	10.74	5.91	4.83
2000	9.79	5.71	4.08	11.41	5.88	5.53
2001	9.65	5.77	3.88	11.04	5.49	5.55
2002 1/	9.51	5.81	3.70	11.19	5.69	5.50
Averages:						
1990-1993	**13.17**	**9.24**	**3.93**	**12.16**	**7.75**	**4.41**
1994-1998	**11.25**	**7.42**	**3.84**	**11.41**	**6.62**	**4.79**
1999-2002	**9.62**	**5.75**	**3.86**	**11.10**	**5.74**	**5.35**

1/ January - June 2002
2/ 30-year maturities used through January 2001, 25-year or greater maturities used from February 2001 - June 2002

Sources: Regulatory Focus, Regulatory Research Associates; Various Board Decisions; Bank of Canada; Federal Reserve.

DEBT AND COMMON STOCK QUALITY RATINGS OF MAJOR CANADIAN GAS AND ELECTRIC UTILITIES

Company	Debt Rated	DBRS Bond Rating	S&P Bond Rating	CBS Stock Ranking
Aquila Networks Canada (British Columbia) Inc.	Secured Debentures	BBB(high)	NR	NR
BC Gas Utility	Senior Secured Senior Unsecured	A A	A- BBB+	Very conservative
CU Inc.	Senior Unsecured	A(high)	A+	Very conservative
Enbridge Gas Distribution Inc.	Senior Unsecured	A	A-	Very conservative
Gaz Metropolitain	Senior Secured	A	A	NR
Hydro One	Senior Unsecured	A	A	NR
Maritime Electric	Senior Secured	NR	BBB+	NR
Newfoundland Power	Senior Secured	A	A	Very conservative
Nova Scotia Power	Senior Unsecured	A(low)	BBB+	Very conservative
Pacific Northern Gas	Senior Secured	BB(high)	BB-	Average
TransAlta Utilities	Senior Secured Senior Unsecured	A A(low)	A- BBB+ 1/	Very conservative
Union Gas Limited	Senior Unsecured	A	A	NR

1/ Corporate Rating

Note: Debt ratings are for utility; Stock rankings are for parent.

Source: DBRS Bond Ratings, Standard & Poor's, The Blue Book of CBS Stock Reports.

RATE

CAPITAL STRUCTURE RATIOS
OF MAJOR CANADIAN ELECTRIC AND GAS UTILITIES
(2001)

Company	Long-term Debt a/	Short-Term Debt	Preferred Stock Classified as Debt b/	Preferred Stock b/	Common Stock Equity c/
Electric Utilities					
Aquila Networks Canada (B.C.) Inc	57.4	0.0	0.0	0.0	42.6
CU Inc.	52.4	0.1	0.0	7.7	39.7
Hydro One	52.9	4.6	0.0	3.4	39.0
Maritime Electric	46.8	11.8	0.0	0.0	41.5
Newfoundland Power	43.3	12.4	0.0	1.6	42.7
Nova Scotia Power	47.3	7.9	0.0	9.4	35.4
TransAlta Utilities	48.2	3.4	3.0	0.0	45.3
Gas Distributors					
BC Gas Utility	58.7	9.7	0.0	0.0	31.6
Enbridge Gas Distribution	40.6	10.8	0.0	11.6 d/	36.9
Gaz Metropolitain	59.9	1.8	0.0	0.0	38.3
Pacific Northern Gas	48.3	5.1	0.0	2.9	43.7
Union Gas	51.9	16.1	0.0	3.3	28.7
Averages					
Electric Utilities	**49.8**	**5.7**	**0.4**	**3.2**	**40.9**
Gas Distributors	**51.9**	**8.7**	**0.0**	**3.6**	**35.8**
All Companies	**50.6**	**7.0**	**0.3**	**3.3**	**38.8**

a/ Includes current portion of long-term debt.
b/ Includes minority interest in preferred shares of subsidiary companies.
c/ Includes minority interest in common shares of subsidiary companies.
d/ Includes inter-corporate preferred

Source: Annual Reports to Stockholders.

CAPSTR1

CAPITAL STRUCTURE RATIOS
OF MAJOR CANADIAN ELECTRIC AND GAS UTILITIES
(2001)

Company	Long-term Debt a/	Preferred Stock Classified as Debt b/	Preferred Stock b/	Common Stock Equity c/
Electric Utilities				
Aquila Networks Canada (B.C.) Inc	57.4	0.0	0.0	42.6
CU Inc.	52.5	0.0	7.7	39.8
Hydro One	55.4	0.0	3.6	41.0
Maritime Electric	53.0	0.0	0.0	47.0
Newfoundland Power	49.4	0.0	1.8	48.8
Nova Scotia Power	51.3	0.0	10.2	38.4
TransAlta Utilities	50.0	3.1	0.0	46.9
Gas Distributors				
BC Gas Utility	65.0	0.0	0.0	35.0
Enbridge Gas Distribution	45.5	0.0	13.1 d/	41.4
Gaz Metropolitain	61.0	0.0	0.0	39.0
Pacific Northern Gas	50.9	0.0	3.1	46.0
Union Gas	61.9	0.0	3.9	34.2
Averages				
Electric Utilities	**52.7**	**0.4**	**3.3**	**43.5**
Gas Distributors	**56.9**	**0.0**	**4.0**	**39.1**
All Companies	**54.4**	**0.3**	**3.6**	**41.7**

a/ Includes current portion of long-term debt.
b/ Includes minority interest in preferred shares of subsidiary companies.
c/ Includes minority interest in common shares of subsidiary companies.
d/ Includes inter-corporate preferred

Source: Annual Reports to Stockholders.

CAPSTR2

PRE-TAX INTEREST COVERAGE RATIOS
FOR MAJOR CANADIAN ELECTRIC AND GAS UTILITIES

Company	1995	1996	1997	1998	1999	2000	2001
Electric Utilities							
Aquila Networks Canada (BC) Ltd.	2.5	2.7	2.7	2.2	2.2	2.3	2.5
CU Inc.	3.1	3.2	3.3	3.3	3.1	2.8	2.7
Maritime Electric	3.6	3.1	2.7	2.1	2.3	0.9	2.1
Newfoundland Power	2.7	2.8	2.8	2.4	2.5	2.6	2.6
Nova Scotia Power	1.8	1.9	2.1	2.1	2.3	2.3	2.3
TransAlta Utilities	3.8	4.0	3.2	3.6	2.8	2.5	NMF
Average	**2.9**	**3.0**	**2.8**	**2.6**	**2.5**	**2.2**	**2.4**
Median	**2.9**	**3.0**	**2.8**	**2.3**	**2.4**	**2.4**	**2.5**
Gas Utilities							
B.C. Gas Utility	1.6	2.0	2.3	2.3	2.3	2.0	1.8
Enbridge Gas Distribution	2.0	2.6	2.6	2.1	2.2	2.2	2.8
Gaz Metropolitain	2.6	2.6	2.7	2.7	2.4	2.7	2.4
Pacific Northern Gas	2.1	2.7	2.6	2.3	2.3	2.3	2.3
Union Gas	2.2	2.3	2.4	2.0	1.8	2.0	1.9
Average	**2.1**	**2.4**	**2.5**	**2.3**	**2.2**	**2.2**	**2.2**
Median	**2.1**	**2.6**	**2.6**	**2.3**	**2.3**	**2.2**	**2.3**
Electric/Gas Average	**2.5**	**2.7**	**2.7**	**2.5**	**2.4**	**2.2**	**2.3**

Source: DBRS, Inc., Annual Reports to Shareholders.

DBRSUTIL

DEBT RATINGS, BUSINESS PROFILE SCORES, DEBT AND INTEREST COVERAGE RATIOS
FOR U.S. INVESTOR-OWNED ELECTRIC UTILITIES

	S & P Rating	Business Profile Scores	Debt Ratio (1999-2001)	Average Pre-Tax Interest Coverage (1999-2001)
Madison Gas & Electric Co.	AA	5	50.1	3.9
Wisconsin Public Service Corp.	AA-	4	46.3	3.6
Average (AA)		**5**	**48.2**	**3.8**
Central Illinois Public Service Co.	A+	3	51.6	3.6
Consolidated Edison Co. of N.Y.	A+	3	55.6	3.3
Orange & Rockland Utilities Inc.	A+	3	58.6	2.6
Otter Tail Power Co.	A+	6	46.4	4.1
Potomac Edison Co. 1/	A+	2	42.6	4.3
San Diego Gas & Electric Co.	A+	5	53.5	3.3
Union Electric Co.	A+	4	39.9	5.7
Alabama Power Co.	A	4	49.3	3.6
Boston Edison Co.	A	3	62.3	2.6
Florida Power & Light Co.	A	4	42.8	4.3
Georgia Power Co.	A	4	45.8	4.6
Gulf Power Co.	A	4	46.3	4.3
Mid American Energy Co.	A	4	46.1	4.3
Mississippi Power Co.	A	4	47.4	4.1
Savannah Electric & Power Co.	A	4	47.3	3.9
South Carolina Electric & Gas Co.	A	4	45.7	3.9
Virginia Electric & Power	A	4	55.7	3.0
Wisconsin Electric Power Co.	A	4	50.3	3.8
Wisconsin Power & Light Co.	A	4	54.9	2.6
Baltimore Gas & Electric Co.	A-	3	60.1	2.4
Commonwealth Edison Co.	A-	4	49.1	3.2
Delmarva Power & Light Co.	A-	3	59.2	3.4
Empire District Electric Co.	A-	5	62.4	1.8
Idaho Power Co.	A-	4	54.0	3.1
Oklahoma Gas & Electric Co.	A-	4	52.9	4.2
PECO Energy Co. 1/	A-	4	67.2	3.7
PP&L Electric Utilities Corp.	A-	4	64.7	3.4
Southern Indiana Gas & Electric Co.	A-	5	50.6	4.1
Tampa Electric Co.	A-	4	46.5	4.0
Average (A)		**4**	**52.0**	**3.6**
Appalachian Power Co.	BBB+	3	61.4	2.6
Arizona Public Service Co.	BBB+	3	56.3	3.4
Atlantic City Electric Co.	BBB+	3	63.5	2.2
Central Power & Light Co.	BBB+	2	53.0	3.4
Cincinnati Gas & Electric Co.	BBB+	4	52.5	4.8
Cleco Corp.	BBB+	6	61.4	3.2
Columbus Southern Power Co.	BBB+	2	56.8	4.2
Dayton Power & Light Co.	BBB+	4	37.5	6.6
Detroit Edison	BBB+	6	55.6	2.8
Florida Power Corp.	BBB+	4	53.3	3.3
Hawaiian Electric Co.	BBB+	6	47.7	3.1
Indiana Michigan Power Co.	BBB+	4	72.6	1.1
Kentucky Power Co.	BBB+	3	59.8	2.2

DEBT RATINGS, BUSINESS PROFILE SCORES, DEBT AND INTEREST COVERAGE RATIOS
FOR U.S. INVESTOR-OWNED ELECTRIC UTILITIES

	S & P Rating	Business Profile Scores	Debt Ratio (1999-2001)	Average Pre-Tax Interest Coverage (1999-2001)
Kentucky Utilities Co.	BBB+	4	47.0	4.4
Louisville Gas & Electric Co.	BBB+	4	46.6	5.1
Monongahala Power Co.	BBB+	2	50.3	3.9
Montana Power Co. 1/	BBB+	4	43.8	5.1
Northwestern Corp.	BBB+	5	59.1	0.3
Ohio Power Co.	BBB+	2	58.8	3.2
Portland General Electric Co.	BBB+	4	49.4	2.9
Potomac Electric Power Co.	BBB+	3	61.6	2.8
PSI Energy Inc.	BBB+	4	59.6	3.3
Reliant Energy	BBB+	3	63.3	2.6
Rochester Gas & Electric Corp.	BBB+	5	51.6	3.1
Southwestern Electric Power Co.	BBB+	3	49.5	3.0
West Penn Power Co.	BBB+	2	35.7	4.1
West Texas Utilities Co.	BBB+	2	57.7	2.4
Black Hills Corp. 1/	BBB	5	57.4	4.2
Duquesne Light Co.	BBB	4	62.1	2.8
Entergy Arkansas Inc.	BBB	6	58.4	2.8
Entergy Louisiana Inc.	BBB	6	56.3	2.7
Entergy Mississippi Inc.	BBB	7	56.7	2.1
Entergy New Orleans Inc.	BBB	7	61.3	1.7
Jersey Central Power & Light Co.	BBB	4	38.1	3.5
Kansas City Power & Light Co.	BBB	6	57.0	2.1
Metropolitan Edison Co.	BBB	5	41.5	3.7
Northern Indiana Public Service Co.	BBB	5	54.7	4.9
Northern States Power Wisconsin	BBB	4	56.0	3.1
Pennsylvania Electric Co.	BBB	5	40.3	4.0
Public Service Co. of Colorado	BBB	3	54.4	2.9
Public Service Electric & Gas Co.	BBB	3	57.4	3.5
Southwestern Public Service Co.	BBB	4	48.2	3.9
Aquila Inc.	BBB	6	58.7	2.6
Illinois Power Co.	BBB-	6	53.9	2.7
Indianapolis Power & Light	BBB-	4	46.3	5.7
Puget Sound Energy Inc.	BBB-	5	64.0	2.2
Average (BBB)		**4**	**53.9**	**3.3**
Average (all U.S. Electrics)		**4**	**53.2**	**3.4**

1/ Debt ratio and interest coverage are the average of 1998-2000.

Note: Excludes all utilities with debt ratings below investment grade.

Source: Standard & Poor's Credit Stats: Electric Utilities (August 22, 2002).

GSRELROE

DEBT RATINGS, BUSINESS PROFILE SCORES, DEBT AND INTEREST COVERAGE RATIOS FOR U.S. INVESTOR-OWNED LDCs

	S & P Rating	Business Profile Scores	Debt Ratio (1999-2001)	Average Pre-Tax Interest Coverage (1999-2001)
Nicor Gas Co	AA	2	55.0	5.0
Nicor Inc	AA	3	52.9	5.3
North Shore Gas Co	AA-	3	42.6	4.4
Peoples Energy Corp	AA-	4	55.6	3.7
Peoples Gas Light & Coke Co	AA-	3	48.9	4.3
WGL Holdings Inc	AA-	3	48.5	4.2
Average (AA)		**3**	**50.6**	**4.5**
Laclede Gas Co	A+	3	57.1	2.7
Questar Gas Co	A+	2	54.3	2.6
Southern California Gas Co	A+	2	45.0	5.2
Boston Gas Co	A	3	51.0	1.3
Colonial Gas Co	A	3	43.8	1.4
KeySpan Corp	A	3	61.4	2.8
New Jersey Natural Gas Co	A	2	45.9	5.6
Northwest Natural Gas Co	A	3	51.6	3.1
ONEOK Inc	A	5	66.9	2.4
Piedmont Natural Gas Co Inc	A	3	51.6	3.4
Wisconsin Gas Co 1/	A	3	55.6	3.4
AGL Resources Inc 1/	A-	3	50.6	3.1
Alabama Gas Corp	A-	2	48.7	3.9
Atmos Energy Corp	A-	4	62.5	2.2
Indiana Gas Co Inc	A-	2	65.4	2.6
Southern Connecticut Gas Co	A-	3	52.6	2.6
UGI Utilities Inc	A-	4	53.2	4.9
Average (A) Rated		**3**	**54.0**	**3.1**
Cascade Natural Gas Corp	BBB+	3	53.5	3.9
Michigan Consolidated Gas Co	BBB+	3	58.3	2.5
South Jersey Gas Co	BBB+	3	59.4	2.9
Southern Union Co	BBB+	3	57.4	1.8
TXU Gas Co	BBB+	5	41.7	0.8
NUI Corp	BBB	3	63.0	2.7
SEMCO Energy Inc	BBB	3	68.8	1.9
Southwestern Energy Co	BBB	8	66.5	0.9
Southwest Gas Corp	BBB-	4	64.8	1.8
Average (BBB Rated)	**BBB+**	**4**	**59.3**	**2.1**
Average (All U.S. LDCs)	**A**	**3**	**53.2**	**3.0**

1/ Debt ratio and interest coverage ratio for 1998-2000.

Source: Standard & Poor's Utilities and Perspectives; Standard & Poor's CreditStats

CANADIAN AND U.S. POST-WWII HISTORIC EQUITY RISK PREMIUMS

Canada
(1947-2001)

Average	Stock Return	Bond Return	Risk Premium
Arithmetic	12.3	6.8	5.5
Compound	11.1	6.3	4.8

United States
(1947-2001)

Average	Stock Return	Bond Return	Risk Premium
Arithmetic	13.7	6.1	7.6
Compound	12.4	5.6	6.8

Source: Canadian Institute of Actuaries, Report on Canadian Economic Statistics;
Ibbotson Associates, Stocks, Bonds, Bills and Inflation.

HISTRP

CANADIAN AND U.S. UTILITY
HISTORIC EQUITY RISK PREMIUMS

TSE GAS/ELECTRIC INDEX
(1956-2001)

Holding Period	Stock Return	Bond Return	Risk Premium
Arithmetic	12.6	7.7	4.9
Compound	11.6	7.2	4.4

S&P / MOODY'S ELECTRIC INDEX
(1947-2001)

Average	Stock Return	Bond Return	Risk Premium
Arithmetic	11.3	6.1	5.2
Compound	10.0	5.6	4.4

S&P / MOODY'S GAS DISTRIBUTION INDEX
(1947-2001)

Average	Stock Return	Bond Return	Risk Premium
Arithmetic	12.4	6.1	6.3
Compound	11.3	5.6	5.7

Sources: TSE Review, Bank of Canada Review, Standard & Poor's Analysts' Handbook, Ibbotson Associates, Stocks, Bonds, Bills and Inflation, Mergent Corporate News Reports.

ERPS

BETAS FOR REGULATED CANADIAN UTILITIES

RAW BETAS
FIVE YEAR PERIOD ENDING

COMPANY	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	Jun-02
Electric and Gas Distributors											
BC Gas	0.41	0.41	0.53	0.59	0.54	0.47	0.48	0.36	0.25	0.18	0.16
Canadian Utilities	0.45	0.45	0.54	0.48	0.55	0.63	0.62	0.54	0.38	0.27	0.23
Emera	N/A	N/A	N/A	N/A	0.52 2/	0.40	0.55	0.41	0.27	0.20	0.20
Enbridge	0.23	0.24	0.26	0.32	0.44	0.43	0.48	0.26	0.07	-0.10	-0.11
Fortis	0.41	0.36	0.44	0.51	0.37	0.30	0.49	0.33	0.23	0.14	0.12
TransAlta Utilities	0.36	0.44	0.55	0.59	0.57	0.47	0.54	0.28	0.05	0.08	0.10
Mean	**0.31**	**0.32**	**0.39**	**0.42**	**0.41**	**0.45**	**0.53**	**0.36**	**0.21**	**0.13**	**0.12**
Median	**0.39**	**0.39**	**0.49**	**0.50**	**0.49**	**0.45**	**0.52**	**0.35**	**0.24**	**0.16**	**0.14**
TSE Gas/Electric Index 3/	0.35	0.42	0.48	0.52	0.52	0.46	0.55	0.38	0.21	0.20	NA
S&P/TSX Utilities	0.72	0.55	0.63	0.67	0.65	0.53	0.55	0.30	0.14	-0.03	-0.05

ADJUSTED BETAS 1/
FIVE YEAR PERIOD ENDING

COMPANY	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	Jun-02
Electric and Gas Distributors											
BC Gas	0.60	0.60	0.69	0.73	0.69	0.64	0.65	0.57	0.50	0.45	0.44
Canadian Utilities	0.63	0.63	0.69	0.65	0.70	0.75	0.75	0.69	0.58	0.51	0.48
Emera	N/A	N/A	N/A	N/A	0.33	0.60	0.70	0.60	0.51	0.46	0.46
Enbridge	0.48	0.49	0.50	0.54	0.62	0.62	0.65	0.50	0.38	0.26	0.26
Fortis	0.60	0.57	0.62	0.67	0.58	0.53	0.66	0.55	0.48	0.42	0.41
TransAlta Utilities	0.57	0.62	0.70	0.73	0.71	0.64	0.69	0.52	0.36	0.38	0.40
Mean	**0.48**	**0.49**	**0.53**	**0.55**	**0.61**	**0.63**	**0.68**	**0.57**	**0.47**	**0.42**	**0.41**
Median	**0.59**	**0.59**	**0.65**	**0.66**	**0.66**	**0.63**	**0.68**	**0.56**	**0.49**	**0.44**	**0.42**
TSE Gas/Electric Index 3/	0.56	0.61	0.65	0.68	0.68	0.64	0.70	0.58	0.47	0.46	NA
S&P/TSX Utilities	0.81	0.70	0.75	0.78	0.77	0.69	0.70	0.53	0.42	0.31	0.30

1/ Adjusted beta = "raw" beta * 67% + market beta of 1.0 * 33%.
2/ Beta is based on 51 months
3/ TSE Gas/Electric index discontinued April 2002.

Source: TSE Review.

CUBETA

BETAS FOR REGULATED CANADIAN UTILITIES (EXCLUDING NORTEL)

	Raw Betas		Adjusted Betas	
	1996-2000	1997-2001	1996-2000	1997-2001
BC Gas	0.41	0.35	0.60	0.56
Canadian Utilities	0.57	0.46	0.71	0.64
Emera	0.43	0.35	0.62	0.56
Enbridge	0.29	0.13	0.52	0.42
Fortis	0.36	0.28	0.57	0.52
TransAlta Utilities	0.27	0.32	0.51	0.54
Average	**0.39**	**0.32**	**0.59**	**0.54**
Median	**0.39**	**0.34**	**0.59**	**0.55**
TSE Gas/Electric Index	0.40	0.37	0.60	0.58
S&P/TSX Utilities	0.35	0.18	0.56	0.45

Source: TSE Review

5-YEAR PRICE BETAS FOR S&P/TSX SECTOR INDICES

	1994	1995	1996	1997	1998	1999	2000	2001	2002 1/
Consumer Discretionary	0.91	0.81	0.82	0.82	0.80	0.73	0.69	0.68	0.71
Consumer Staples	0.75	0.68	0.65	0.62	0.60	0.44	0.23	0.10	0.08
Energy	0.68	0.93	0.92	0.97	0.85	0.90	0.66	0.49	0.47
Financials	1.14	0.93	1.02	0.94	1.12	1.00	0.78	0.66	0.67
Health Care	0.84	0.35	0.39	0.60	1.01	1.00	1.09	0.98	0.96
Industrials	1.15	1.20	1.10	0.97	0.93	0.78	0.72	0.82	0.82
Information Technology	1.12	1.26	1.36	1.57	1.41	1.55	1.78	2.13	2.17
Materials	1.26	1.39	1.27	1.32	1.12	1.04	0.74	0.60	0.58
Telecommunication Services	0.61	0.56	0.64	0.64	0.92	1.11	0.92	0.94	0.94
Utilities	0.63	0.67	0.65	0.53	0.55	0.30	0.14	-0.03	-0.05

1/ 5-years through June 2002

Source: Toronto Stock Exchange

HBSPTSX

Betas for Selected U.S. Local Gas Distribution Utilities

Companies	"Raw" Betas (1994 - 1998)	"Raw" Betas (July '97 - June '02)	Value Line	Bloomberg
AGL Resources	0.60	0.27	0.60	0.65
Atmos Energy Corp	0.16	-0.08	0.55	0.68
New Jersey Resources	0.47	0.19	0.60	0.61
Nicor Inc	0.42	0.22	0.55	0.85
Northwest Natural Gas Co	0.46	0.06	0.60	0.57
Peoples Energy Corp	0.67	-0.02	0.70	0.64
Piedmont Natural Gas Co	0.51	0.19	0.60	0.64
WGL Holdings Inc	0.47	0.21	0.60	0.74
Average	**0.47**	**0.13**	**0.60**	**0.67**
Median	**0.47**	**0.19**	**0.60**	**0.65**

Source: S&P Research Insight; Value Line (June 2002); Bloomberg.com (August 2002)

BETA

HISTORIC VALUE LINE BETAS FOR SELECTED U.S. LOCAL NATURAL GAS DISTRIBUTION COMPANIES

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
AGL RESOURCES INC	0.60	0.60	0.70	0.75	0.75	0.65	0.65	0.60	0.60	0.60
ATMOS ENERGY CORP	0.50	0.55	0.60	0.65	0.55	0.55	0.55	0.55	0.55	0.55
NEW JERSEY RESOURCES	0.65	0.65	0.65	0.65	0.60	0.55	0.55	0.55	0.55	0.60
NICOR INC	0.60	0.60	0.70	0.70	0.75	0.65	0.60	0.60	0.60	0.55
NORTHWEST NATURAL GAS	0.60	0.55	0.50	0.45	0.60	0.60	0.60	0.60	0.60	0.60
PEOPLES ENERGY	0.75	0.80	0.80	0.80	0.90	0.80	0.75	0.70	0.70	0.70
PIEDMONT NATURAL GAS	0.60	0.60	0 60	0.65	0.60	0.55	0.55	0.60	0.60	0.60
WGL HOLDINGS INC	0.65	0.70	0.65	0.70	0.75	0.60	0.60	0.60	0.60	0.60
MEDIAN	**0.60**	**0.60**	**0.65**	**0.68**	**0.68**	**0.60**	**0.60**	**0.60**	**0.60**	**0.60**

Source: Value Line, 4th Quarter issues for 1993-2001, June 2002

HBETA

STANDARD DEVIATIONS OF MARKET RETURNS
FOR 10 SECTOR INDICES OF S&P/TSX

Index	1993-97	1994-98	1995-99	1996-00	1997-01	July97-June02
S&P / TSX	**3.6 %**	**4.7 %**	**4.8 %**	**5.4**	**5.9 %**	**5.9 %**
10 Sector Indices						
Consumer Discretionary	3.7	4.4	4.6	5.0	5.4	5.6
Consumer Staples	3.6	4.0	3.7	4.0	4.2	4.1
Energy	5.6	6.2	7.3	8.0	8.3	8.2
Financials	4.3	5.9	5.9	6.2	6.2	6.1
Health Care	6.6	7.7	8.2	9.4	9.0	9.1
Industrials	4.1	4.9	4.7	5.1	6.5	6.5
Information Technology	8.0	9.2	10.4	12.3	15.2	15.8
Materials	5.9	7.0	7.2	7.3	7.4	7.4
Telecommunication Services	3.7	5.8	7.4	7.9	8.5	8.8
Utilities	3.1	3.8	4.0	4.8	5.1	5.1
Average	**4.9**	**5.9**	**6.3**	**7.0**	**7.6**	**7.7**
Median	**4.2**	**5.9**	**6.6**	**6.8**	**6.9**	**7.0**

Source: Toronto Stock Exchange

STDEV

SELECTED U.S. LOCAL NATURAL GAS DISTRIBUTION COMPANIES
RISK PREMIUM STUDY
(Quarterly Averages of Monthly Data)

	Dividend Yields 1/	I/B/E/S EPS Growth Forecast	DCF Cost	30-Year Treasury Yield	Risk Premium
1993 1Q	5.4	6.5	11.9	7.0	4.9
2Q	5.2	6.4	11.6	6.9	4.7
3Q	4.9	6.5	11.4	6.3	5.1
4Q	5.3	6.0	11.2	6.2	5.0
1994 1Q	5.4	5.4	10.8	6.7	4.1
2Q	5.8	5.6	11.4	7.3	4.0
3Q	6.0	5.6	11.6	7.6	4.0
4Q	6.3	5.2	11.5	7.9	3.6
1995 1Q	6.1	4.9	11.0	7.6	3.4
2Q	5.9	5.1	11.0	6.9	4.1
3Q	5.8	5.0	10.8	6.7	4.1
4Q	5.4	5.1	10.5	6.2	4.3
1996 1Q	5.3	5.2	10.5	6.4	4.1
2Q	5.3	5.2	10.5	7.0	3.6
3Q	5.2	5.3	10.5	7.0	3.5
4Q	4.9	5.4	10.3	6.6	3.7
1997 1Q	5.1	5.2	10.3	6.9	3.4
2Q	5.0	5.2	10.2	6.9	3.3
3Q	4.8	5.3	10.1	6.5	3.6
4Q	4.5	5.5	10.0	6.1	4.0
1998 1Q	4.5	5.9	10.3	5.9	4.4
2Q	4.5	5.9	10.4	5.8	4.6
3Q	4.8	6.0	10.8	5.3	5.5
4Q	4.4	5.8	10.2	5.2	5.0
1999 1Q	5.0	5.8	10.8	5.5	5.3
2Q	4.9	5.6	10.6	5.8	4.8
3Q	4.9	5.6	10.5	6.1	4.4
4Q	5.1	5.5	10.6	6.4	4.2
2000 1Q	5.8	5.4	11.3	6.3	5.0
2Q	5.7	5.3	11.0	6.0	5.0
3Q	5.3	5.7	11.1	5.8	5.3
4Q	4.8	5.7	10.5	5.6	4.9
2001 1Q	4.9	5.7	10.6	5.4	5.2
2Q	4.8	5.6	10.4	5.8	4.6
3Q	5.0	6.1	11.1	5.5	5.6
4Q	4.9	5.8	10.7	5.3	5.3
2002 1Q	4.9	5.6	10.5	5.7	4.8
2Q	4.7	5.6	10.3	5.7	4.6
Averages for 30-year Treasury yields:					
up to 5.5			**10.7**	**5.4**	**5.3**
5.6 - 6.0			**10.6**	**5.8**	**4.8**
6.1 - 6.5			**10.7**	**6.3**	**4.4**
over 6.5			**11.0**	**7.1**	**3.9**
All periods			**10.8**	**6.3**	**4.4**

1/ Dividend Yield is adjusted for half of I/B/E/S growth

Source: Standard & Poor's Research Insight, I/B/E/S International, Inc.,
U.S. Federal Reserve Statistical Release

VLGDDYBY

SCHEDULE 15

RISK MEASURES FOR SELECTED U.S. LOCAL NATURAL GAS DISTRIBUTION COMPANIES

Company	S&P Business Profile	S&P Debt Rating	Value Line Safety Rank	Value Line Earnings Predictability	Value Line Financial Strength	Beta	2001 Average Market to Book Ratio
AGL RESOURCES INC	3	A-	2	60	B++	0.60	184
ATMOS ENERGY CORP	4	A-	3	50	B+	0.55	168
NEW JERSEY RESOURCES	2[1/]	A[1/]	2	100	B++	0.60	224
NICOR INC	3	AA	1	95	A+	0.55	240
NORTHWEST NATURAL GAS CO	3	A	2	60	B++	0.60	133
PEOPLES ENERGY CORP	4	A+	1	70	A	0.70	174
PIEDMONT NATURAL GAS CO	3	A	2	85	B++	0.60	200
WGL HOLDINGS INC	3	AA-	1	65	A	0.60	175
Average	**3.1**	**A**	**2**	**73**	**A-**	**0.60**	**187**
Median	**3.0**	**A**	**2**	**68**	**B++**	**0.60**	**179**

Source: Standard & Poor's Research Insight; Value Line (June 21, 2002);
Standard & Poor's Utilities and Perspectives (August 19, 2002), Standard & Poor's Research Insight.

1/ For subsidiary, New Jersey Natural Gas

LDCRISK

SCHEDULE 16

DCF COSTS OF EQUITY FOR SELECTED LOCAL NATURAL GAS DISTRIBUTION COMPANIES (BASED ON ANALYSTS' EARNINGS GROWTH FORECASTS)

Company	June-August 2002 Dividend Yield	Long-Term EPS Forecasts I/B/E/S (August 2002)	Long-Term EPS Forecasts Zacks (August 2002)	Average of Forecasts	DCF Cost of Equity
AGL RESOURCES INC	5.0	8.0	11.4	9.7	15.2
ATMOS ENERGY CORP	5.4	6.0	6.3	6.2	11.9
NEW JERSEY RESOURCES	4.1	7.0	7.6	7.3	11.6
NICOR INC	5.1	6.0	5.7	5.9	11.3
NORTHWEST NATURAL GAS	4.4	4.6	6.4	5.5	10.2
PEOPLES ENERGY	6.1	5.8	5.8	5.8	12.3
PIEDMONT NATURAL GAS	4.6	4.5	4.7	4.6	9.4
WGL HOLDINGS INC	5.3	4.0	3.7	3.8	9.3
Mean	**5.0**	**5.7**	**6.5**	**6.1**	**11.4**
Median	**5.1**	**5.9**	**6.1**	**5.8**	**11.5**

1/ Adjusted dividend yield plus growth;
[DY*(1+(Growth))] + Growth

Source: Standard & Poor's Research Insight, I/B/E/S, Zacks, Yahoo.com

DCFGR2

DCF COSTS OF EQUITY FOR SELECTED LOCAL NATURAL GAS DISTRIBUTION COMPANIES (BASED ON SUSTAINABLE GROWTH RATES)

Company	June-August 2002 Dividend Yield	Sustainable Growth (June 2002)	DCF Cost of Equity	Value Line ROE Forecast (2005-2007)	Value Line Dividend Payout Forecast (2005-2007)
AGL RESOURCES INC	5.0	6.0	11.3	13.0	55.2
ATMOS ENERGY CORP	5.4	5.5	11.2	14.0	59.1
NEW JERSEY RESOURCES	4.1	7.5	11.9	12.5	41.9
NICOR INC	5.1	10.5	16.2	21.5	50.9
NORTHWEST NATURAL GAS	4.4	5.5	10.2	11.5	51.9
PEOPLES ENERGY	6.1	6.0	12.5	12.0	52.1
PIEDMONT NATURAL GAS	4.6	4.5	9.4	12.5	63.9
WGL HOLDINGS INC	5.3	5.5	11.1	12.5	53.1
Mean	**5.0**	**6.4**	**11.7**	**13.7**	**53.5**
Median	**5.1**	**5.8**	**11.2**	**12.5**	**52.6**

1/ Adjusted dividend yield plus growth;
[DY*(1+(Growth))] + Growth

Source: Standard & Poor's Research Insight, Value Line (June 2002), Yahoo.com

DCFSU

SCHEDULE 18

RETURNS ON AVERAGE COMMON STOCK EQUITY FOR 15 LOW RISK CANADIAN INDUSTRIALS

	Returns on Equity												
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	Average 1992-2001	Average 1992-1995	Average 1996-2001
CANADIAN TIRE CORP	6.4	6.9	0.5	10.2	10.4	11.4	13.0	11.2	10.6	11.5	9.2	6.0	11.4
CARA OPERATIONS LTD	12.6	11.7	9.5	12.2	10.9	13.8	7.4	10.5	34.6	10.3	13.4	11.5	14.6
EMPIRE CO LTD	6.8	12.3	9.4	3.9	11.9	17.9	21.7	13.3	69.1	16.3	18.3	8.1	25.0
FINNING INTERNATIONAL INC	0.7	6.5	14.9	16.3	16.0	16.2	0.5	8.7	10.5	14.1	10.4	9.6	11.0
JEAN COUTU GROUP	18.5	10.1	17.0	15.2	16.2	15.3	15.5	15.7	14.9	15.7	15.4	15.2	15.6
LEONS FURNITURE LTD	11.4	16.4	15.3	14.0	13.4	15.1	16.7	21.1	19.3	17.3	16.0	14.3	17.2
LOBLAW COS LTD	8.7	9.6	12.4	13.3	14.2	15.3	12.8	13.7	15.7	16.8	13.2	11.0	14.8
MAGNA INTERNATIONAL	22.8	19.6	21.7	21.8	15.8	21.6	12.3	12.0	15.9	14.7	17.8	21.5	15.4
MAPLE LEAF FOODS INC	7.9	7.3	7.5	-6.7	14.8	14.7	-6.3	17.9	8.0	10.3	7.5	4.0	9.9
MOLSON INC	15.7	10.1	6.5	-26.8	3.7	11.8	16.3	-4.1	14.7	18.0	6.6	1.4	10.1
ROTHMANS INC	34.4	40.1	45.2	39.7	40.2	37.2	38.4	41.7	38.6	40.1	39.6	39.8	39.4
SHAW COMMUNICATN INC	11.5	11.5	10.2	6.2	11.8	2.9	-0.1	1.9	5.5	-8.4	5.3	9.9	2.3
THOMSON CORP	6.0	10.0	14.6	22.4	14.2	12.9	34.7	8.0	17.9	10.2	15.1	13.2	16.3
TORSTAR CORP	8.4	-1.7	7.9	6.7	11.3	38.4	-0.7	12.8	5.4	-14.6	7.4	5.3	8.8
WESTON (GEORGE) LTD	3.2	4.5	8.7	12.9	15.1	14.5	37.3	14.0	17.4	18.5	14.6	7.3	19.5
Median	**8.7**	**10.1**	**10.2**	**12.9**	**14.2**	**15.1**	**13.0**	**12.8**	**15.7**	**14.7**	**13.4**	**9.9**	**14.8**
Average											**14.0**	**11.9**	**15.4**
Average of Medians											**12.7**	**10.5**	**14.2**

Source: Standard & Poor's Research Insight

CDAIND

RISK MEASURES FOR 15 LOW RISK CANADIAN INDUSTRIALS

Company Name	Debt Ratings S&P	Debt Ratings DBRS	CBS Stock Rating	Beta Raw	Beta Adjusted	Equity Ratio Permanent Capital 2001
CANADIAN TIRE CORP	BBB+	A (low)	Very Conservative	0.39	0.59	55.0%
CARA OPERATIONS LTD	BBB-	BBB	Average	0.36	0.57	68.8%
EMPIRE CO LTD	BBB-	BBB	Very Conservative	0.48	0.65	57.0%
FINNING INTERNATIONAL INC	BBB+	BBB (high)	Conservative	0.18	0.45	58.9%
JEAN COUTU GROUP			Conservative	0.20	0.46	74.5%
LEONS FURNITURE LTD			Average	0.29	0.52	99.9%
LOBLAW COS LTD	A	A (high)	Very Conservative	0.02	0.34	51.7%
MAGNA INTERNATIONAL	A	A	Conservative	0.34	0.56	86.9%
MAPLE LEAF FOODS INC			Conservative	0.68	0.79	51.2%
MOLSON INC	BBB+	A	Very Conservative	0.07	0.37	41.0%
ROTHMANS INC		A (low)	Average	-0.13	0.24	62.8%
SHAW COMMUNICATN INC	BBB	BBB	Very Conservative	0.67	0.78	41.3%
THOMSON CORP	A-	A (low)	Very Conservative	0.58	0.72	65.5%
TORSTAR CORP		BBB (high)	Very Conservative	0.47	0.65	51.2%
WESTON (GEORGE) LTD	A-	A (low)	Very Conservative	0.15	0.43	39.8%
MEDIAN	**BBB+**	**A (low)**	**Very Conservative**	**0.34**	**0.56**	**57.0%**

Source: Standard & Poor's; DBRS; Canadian Business Service.

RETURNS ON EQUITY
FOR 84 LOW RISK U.S. INDUSTRIALS

	Returns on Equity										Average
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	1992-2001
AIRGAS INC	10.7	14.3	18.2	18.7	8.1	10.6	11.6	8.2	5.8	9.7	11.6
ALBANY INTL CORP	1.2	7.1	9.8	15.0	15.4	14.6	9.7	9.4	11.7	10.4	10.4
ALBERTO-CULVER CO	14.4	14.1	14.1	15.1	15.8	18.5	16.1	15.6	17.1	16.1	15.7
ASHLAND INC	-5.4	12.1	14.5	0.4	13.3	15.7	9.8	13.4	3.6	20.3	9.8
AUTOZONE INC	25.8	25.6	25.2	22.9	21.6	20.1	19.2	18.6	23.1	18.9	22.1
AVERY DENNISON CORP	9.8	10.9	15.1	18.6	21.4	24.5	26.7	26.2	34.6	27.7	21.6
BANDAG INC	26.3	21.1	22.2	23.3	20.1	27.9	12.7	11.4	13.0	9.1	18.7
BARRA INC	20.9	16.7	15.6	24.5	32.9	13.3	16.4	25.3	36.0	57.6	25.8
BEMIS CO	16.6	12.6	18.5	18.3	18.7	17.8	17.0	16.4	17.1	16.7	17.0
BIG LOTS INC	19.5	18.4	19.2	18.3	16.0	10.0	9.9	7.7	-34.2	-2.2	8.3
BLAIR CORP	22.3	17.4	19.8	12.5	7.1	6.3	10.2	6.8	9.2	3.9	11.5
BOMBAY CO INC	18.1	9.4	17.4	8.3	-1.9	2.9	2.6	4.7	5.6	2.4	6.9
BURLINGTON COAT FACTORY WRHS	12.0	14.1	13.1	3.9	7.3	12.9	9.5	11.0	11.6	8.6	10.4
BUTLER MFG CO	2.8	34.9	21.8	25.8	22.7	24.5	4.6	16.7	15.5	4.9	17.4
CACI INTL INC	15.6	10.0	18.6	19.8	19.7	16.0	15.1	15.5	31.9	14.8	17.7
CARPENTER TECHNOLOGY	4.4	9.7	16.2	18.5	20.8	15.7	15.1	5.6	8.2	5.2	11.9
CASEYS GENERAL STORES INC	13.1	12.4	13.5	13.9	12.8	13.5	14.2	12.9	10.6	11.0	12.8
CHEVRONTEXACO CORP	15.5	9.1	11.8	6.4	17.4	19.7	7.8	11.9	27.5	14.6	14.2
CHURCH & DWIGHT INC	19.8	18.0	3.8	6.6	13.3	14.2	16.2	21.5	14.5	18.2	14.6
CLARCOR INC	16.9	16.9	18.6	17.7	18.0	17.0	17.9	17.8	17.8	16.2	17.5
CLEVELAND-CLIFFS INC	11.9	19.8	14.5	18.6	17.1	14.1	13.6	1.1	4.5	-8.3	10.6
CLOROX CO/DE	14.7	19.7	23.7	21.7	23.7	25.3	28.1	18.5	23.4	17.6	21.7
COMMERCIAL METALS	6.0	9.7	10.9	14.0	14.4	11.2	11.6	11.8	11.0	5.7	10.6
CVS CORP	6.8	14.7	12.6	-32.5	4.9	2.7	15.1	19.9	19.7	9.6	7.4
DEERE & CO	1.4	7.8	26.0	25.0	24.8	24.9	24.8	5.9	11.6	-1.5	15.0
DONNELLEY (R R) & SONS CO	13.1	9.7	14.1	14.4	-8.3	8.1	20.4	25.3	22.5	2.4	12.2
EASTMAN KODAK CO	15.7	13.5	22.3	27.4	26.1	0.1	38.9	35.2	38.3	2.4	22.0
ECOLAB INC	20.0	21.2	20.2	21.6	23.2	25.0	31.0	24.2	27.5	23.0	23.7
ENESCO GROUP INC	18.8	13.0	16.8	15.6	14.1	-11.1	-11.8	20.3	12.6	0.9	8.9
ESTERLINE TECHNOLOGIES	6.4	-37.2	12.5	23.3	18.9	16.4	16.6	14.2	13.7	11.0	9.6
EW SCRIPPS	15.1	16.2	12.6	11.7	14.7	15.8	12.4	13.2	13.4	10.5	13.6
FEDERAL SIGNAL CORP	20.0	21.0	22.3	22.0	23.8	20.6	19.1	17.0	16.4	7.7	19.0
FLOWSERVE CORP	10.3	13.3	12.9	18.3	21.9	17.3	12.9	3.7	5.0	4.6	12.0
FOREST LABORATORIES	15.1	15.3	15.8	13.8	-3.3	5.9	11.4	13.8	20.4	23.7	13.2
FREDS INC	12.8	9.4	7.5	2.4	4.9	7.9	6.6	7.6	9.7	10.4	7.9
GRAINGER (W W) INC	16.3	15.9	13.0	16.9	15.8	16.8	18.5	13.1	12.8	11.1	14.9
HARRIS CORP	7.5	10.1	10.5	12.7	13.6	14.1	8.3	3.9	1.2	1.7	8.4
HARSCO CORP	18.8	15.9	15.7	16.1	18.2	13.7	14.7	13.6	14.6	10.5	15.2
HAVERTY FURNITURE	5.5	9.5	10.0	9.0	8.4	8.6	10.6	16.8	16.0	11.9	10.6
HUGHES SUPPLY INC	2.7	7.1	9.1	11.2	16.0	12.9	13.7	13.1	8.5	7.6	10.1
INTL FLAVORS & FRAGRANCES	18.2	21.7	23.8	23.4	17.3	21.0	20.9	18.0	16.5	20.1	20.1
JACOBS ENGINEERING GROUP INC	21.6	18.3	10.0	14.7	15.5	15.4	15.6	16.0	10.8	16.1	15.4
KNIGHT-RIDDER INC	12.5	12.2	13.9	14.3	23.9	30.8	22.8	18.9	18.3	11.4	17.9
LA-Z-BOY INC	10.7	12.5	11.8	11.8	12.9	13.4	16.5	16.3	10.1	8.8	12.5
LINCOLN ELECTRIC HLDGS INC	-19.8	-23.7	28.4	23.5	20.6	20.6	20.2	15.7	17.4	17.7	12.1
LONGVIEW FIBRE CO	8.5	10.3	8.3	17.8	12.3	2.8	-1.5	4.8	8.8	5.8	7.8
LUBRIZOL CORP	15.4	11.9	22.4	18.0	20.4	18.9	9.0	15.8	15.3	12.3	15.9
MAY DEPARTMENT STORES CO	19.6	20.3	19.6	16.9	18.0	20.4	21.7	23.0	21.2	17.9	19.9
MEDIA GENERAL	8.9	11.8	41.9	15.0	17.3	12.3	15.8	97.6	4.3	1.6	22.6
MEREDITH CORP	6.3	6.4	10.0	16.0	21.5	32.4	23.6	25.3	19.2	17.2	17.2
MURPHY OIL CORP	7.2	7.2	8.6	-10.0	13.0	12.6	-1.4	11.8	26.4	24.0	9.9
MYLAN LABORATORIES	28.3	21.6	28.0	18.6	9.9	14.4	12.8	13.6	3.2	20.5	17.1
NEW ENGLAND BUSINESS SVC INC	15.8	15.1	16.0	17.1	14.2	23.8	25.6	22.4	23.7	15.6	18.9
O CHARLEYS INC	7.5	9.4	12.2	22.1	-2.3	12.0	12.6	13.9	14.5	10.1	11.2
OCCIDENTAL PETROLEUM CORP	-12.9	7.5	-3.4	13.0	17.0	-13.8	11.1	16.9	37.8	22.8	9.6
OXFORD INDUSTRIES INC	13.2	15.8	8.1	1.7	14.5	16.3	16.8	14.7	9.2	10.8	12.1
PENNEY (J C) CO	17.5	18.9	19.6	14.8	9.5	8.5	8.2	4.5	-11.7	1.2	9.1
PEPSIAMERICAS INC	12.7	21.4	19.3	22.6	22.0	0.7	14.3	-1.2	6.2	1.3	11.9
PHARMACIA CORP	13.6	16.9	21.4	22.1	10.4	12.1	-5.5	11.5	11.0	12.6	12.6
PHILLIPS PETROLEUM CO	9.9	9.1	17.2	15.3	35.0	21.2	5.2	13.9	35.0	16.1	17.8
PIER 1 IMPORTS INC/DE	12.2	3.0	11.7	4.4	17.5	21.8	20.2	17.7	19.5	17.9	14.6
PILGRIMS PRIDE CORP	-26.4	18.2	21.1	-5.1	-3.1	25.2	24.2	24.9	16.4	11.6	10.7
QUANEX CORP	2.3	1.7	9.0	18.9	18.0	29.9	3.4	13.7	-3.5	10.5	10.4
REGIS CORP/MN	15.1	10.3	8.2	21.5	20.7	5.1	18.0	14.3	19.3	17.2	15.0
SCHOLASTIC CORP	21.2	18.3	16.9	11.8	0.1	7.7	10.8	13.0	7.9	5.9	11.4
SEARS ROEBUCK & CO	-18.1	26.5	12.7	26.6	27.7	22.0	18.0	22.5	19.7	11.4	16.9
SMART & FINAL INC	13.6	13.2	14.7	13.8	14.5	3.4	-3.9	2.2	4.3	5.3	8.1
SONIC CORP	20.9	20.9	15.1	21.2	13.0	16.7	16.4	19.4	21.4	21.9	18.7
STANLEY WORKS	14.0	13.4	17.6	8.0	12.8	-6.0	21.6	21.4	26.4	20.2	14.9
SUNGARD DATA SYSTEMS INC	14.6	15.2	12.7	12.5	7.9	15.2	18.0	7.4	16.1	15.2	13.5
SUNOCO INC	-13.0	14.6	5.0	14.6	-19.5	30.7	23.1	6.4	26.3	23.8	11.2
SYNCOR INTL CORP/DE	16.6	10.4	1.7	6.1	5.9	13.4	14.0	15.3	18.1	18.0	12.0
SYSCO CORP	17.4	18.4	18.2	19.0	19.2	21.0	23.6	26.0	28.5	30.5	22.2
THOMAS INDUSTRIES INC	-1.5	3.0	8.1	9.2	11.6	13.6	13.5	13.1	14.1	12.4	9.7
THOR INDUSTRIES INC	16.0	14.8	18.2	13.5	14.2	13.7	15.0	20.3	20.0	12.9	15.8
TOOTSIE ROLL INDUSTRIES INC	19.2	18.0	16.8	15.7	16.1	18.3	18.1	17.2	17.0	13.6	17.0
TREDEGAR CORP	9.8	6.3	22.7	14.1	23.5	24.1	23.6	15.4	25.6	2.0	16.7
TRIBUNE CO	14.0	17.8	19.4	20.3	25.9	23.8	20.1	52.9	4.5	1.5	20.0
TYSON FOODS INC	17.8	15.4	-0.2	15.9	5.8	11.7	1.4	11.2	7.0	3.2	8.9
VF CORP	22.2	18.0	16.5	8.8	15.8	18.0	19.4	17.0	12.1	6.1	15.4
VULCAN MATERIALS CO	13.2	12.6	13.7	21.8	22.4	22.3	23.9	19.4	15.7	14.5	17.9
WAUSAU-MOSINEE PAPER CORP	27.0	22.0	21.1	13.8	16.4	17.2	11.7	10.7	0.2	2.6	14.3
WINN-DIXIE STORES INC	23.9	24.4	21.2	20.2	19.8	15.3	14.7	13.1	-20.1	5.5	13.8
WINNEBAGO INDUSTRIES	-3.6	12.1	21.6	30.8	12.0	20.1	20.3	33.3	29.8	22.9	19.9
Median	13.8	14.1	15.6	15.8	15.8	15.6	15.1	15.0	15.0	11.3	14.0
Average											14.3
Average of Annual Medians											14.7

Source: Standard & Poor's Research Insight

S&P DEBT RATINGS AND VALUE LINE RISK MEASURES
FOR 64 LOW RISK US INDUSTRIALS

	S&P Debt Rating	Value Line Risk Measures: Safety Rank	Earning Predictability	Financial Strength	Beta
AIRGAS INC		3	75	B	0.59
ALBANY INTL CORP -CL A		3	65	B+	0.66
ALBERTO-CULVER CO -CL B	BBB+	2	100	B++	0.51
ASHLAND INC	BBB	2	70	B++	0.60
AUTOZONE INC	BBB+	3	90	B++	0.68
AVERY DENNISON CORP	A	2	85	A	0.63
BANDAG INC		3	80	B+	0.65
BARRA INC		3	60	A+	0.54
BEMIS CO	A	1	95	A+	0.60
BIG LOTS INC		3	25	B+	0.51
BLAIR CORP		3	40	B	0.63
BOMBAY CO INC		3	40	B	0.64
BURLINGTON COAT FACTORY WRHS		3	50	B+	0.57
BUTLER MFG CO		2	55	B++	0.54
CACI INTL INC -CL A		3	85	B+	0.60
CARPENTER TECHNOLOGY	BBB	3	40	B	0.54
CASEYS GENERAL STORES INC		3	80	B	0.54
CHEVRONTEXACO CORP	AA	1	35	A++	0.57
CHURCH & DWIGHT INC		3	75	B++	0.56
CLARCOR INC		2	100	B++	0.57
CLEVELAND-CLIFFS INC		3	10	B	0.54
CLOROX CO/DE	A+	2	95	A+	0.50
COMMERCIAL METALS	BBB	3	60	B	0.54
CVS CORP	A	3	70	A	0.59
DEERE & CO	A-	3	35	B++	0.51
DONNELLEY (R R) & SONS CO	A	2	75	B++	0.67
EASTMAN KODAK CO	BBB+	3	55	B+	0.51
ECOLAB INC	A	2	95	B++	0.66
ENESCO GROUP INC		3	30	B	0.55
ESTERLINE TECHNOLOGIES		3	70	B+	0.54
EW SCRIPPS -CL A		3	65	B+	0.50
FEDERAL SIGNAL CORP		2	85	A	0.65
FLOWSERVE CORP		3	60	B	0.56
FOREST LABORATORIES -CL A		3	20	A	0.68
FREDS INC		3	50	B+	0.69
GRAINGER (W W) INC		2	75	A+	0.67
HARRIS CORP	BBB	3	40	A	0.62
HARSCO CORP	A-	3	85	B++	0.67
HAVERTY FURNITURE		3	70	B	0.68
HUGHES SUPPLY INC		3	65	B	0.54
INTL FLAVORS & FRAGRANCES		2	85	B++	0.67
JACOBS ENGINEERING GROUP INC		2	100	B++	0.53
KNIGHT-RIDDER INC	A	2	40	B++	0.53
LA-Z-BOY INC		2	65	B++	0.51
LINCOLN ELECTRIC HLDGS INC		2	90	A	0.70
LONGVIEW FIBRE CO		3	25	C++	0.69
LUBRIZOL CORP	A+	3	65	B+	0.59
MAY DEPARTMENT STORES CO	A+	3	90	B+	0.59
MEDIA GENERAL -CL A		3	50	B+	0.58
MEREDITH CORP		3	70	B+	0.55
MURPHY OIL CORP	A-	2	30	A	0.61
MYLAN LABORATORIES		3	55	A	0.69
NEW ENGLAND BUSINESS SVC INC		3	75	B++	0.53
O CHARLEYS INC		3	75	B+	0.55
OCCIDENTAL PETROLEUM CORP	BBB	3	15	B+	0.62
OXFORD INDUSTRIES INC		3	35	B	0.54
PENNEY (J C) CO	BBB-	3	25	B	0.55
PEPSIAMERICAS INC		3	55	B	0.51
PHARMACIA CORP	AA-	3	NMF	A	0.51
PHILLIPS PETROLEUM CO	BBB+	3	35	B+	0.63
PIER 1 IMPORTS INC/DE		3	80	B+	0.61
PILGRIMS PRIDE CORP		3	30	C++	0.57
QUANEX CORP		3	75	B++	0.51
REGIS CORP/MN		3	75	B+	0.69
SCHOLASTIC CORP	BBB	3	15	B	0.61
SEARS ROEBUCK & CO	A-	3	80	A	0.64
SMART & FINAL INC		3	30	B	0.61
SONIC CORP		3	100	B+	0.62
STANLEY WORKS	A	3	55	B++	0.61
SUNGARD DATA SYSTEMS INC		3	100	A	0.54
SUNOCO INC	BBB	3	20	B++	0.52
SYNCOR INTL CORP/DE		3	55	B+	0.54
SYSCO CORP	AA-	1	95	A++	0.55
THOMAS INDUSTRIES INC		3	85	B+	0.64
THOR INDUSTRIES INC		3	70	B++	0.61
TOOTSIE ROLL INDUSTRIES INC		1	90	A+	0.68
TREDEGAR CORP		3	55	B+	0.59
TRIBUNE CO	A	2	65	A	0.63
TYSON FOODS INC -CL A	BBB	3	40	B+	0.52
VF CORP	A-	3	85	B++	0.69
VULCAN MATERIALS CO	A+	1	85	A	0.59
WAUSAU-MOSINEE PAPER CORP		3	20	B+	0.66
WINN-DIXIE STORES INC	BB+	3	50	B++	0.59
WINNEBAGO INDUSTRIES		3	45	B	0.66
AVERAGE	A-	3	62	B++	0.59
MEDIAN	A-	3	65	B+	0.59

Source: S&P Research Insight, S&P Bond Guide, Value Line.

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