EB-2007-0905

IN THE MATTER OF the *Ontario Energy Board Act*, *1998*, S.O. 1998, c. 15, (Schedule B);

AND IN THE MATTER OF an Application by Ontario Power Generation Inc. pursuant to section 78.1 of the *Ontario Energy Board Act, 1998* for an Order or Orders determining payment amounts for the output of certain of its generating facilities.

BRIEF re:
Rate Base
Capital Structure and
Return Implications
of Deferred Liabilities

June 2, 2008

Peter C.P. Thompson, Q.C.
Counsel for Canadian Manufacturers & Exporters ("CME")

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TAB 1

E.B.R.O. 343 I

REASONS FOR DECISION

in the matter of a Rate Application
under The Ontario Energy Board Act by

UNION GAS LIMITED

Phase I

June 30, 1976

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C. RATE OF RETURN

1. Introduction

The Board is required by the Act to determine a reasonable rate of return on the rate base before approving or fixing any rates for the future. In determining what is a reasonable rate of return, the Board has as its object to provide the consumer with the lowest rate practicable, consistent with protecting the Applicant's capability to provide efficient, adequate and reliable service and at the same time maintaining the Applicant's financial integrity.

In his prefiled testimony, W. G. Stewart described the conditions under which Union must operate as follows:

> "The present situation is one of great uncertainty. There is some doubt that the annual volumes of natural gas presently being received can be maintained beyond the fiscal year ending March 31, 1977. Recent pricing action on the part of the Federal Government raises serious questions as to the ability of natural gas to remain competitive with other forms of energy, particularly in the large volume industrial market. We foresee large capital requirements for Union Gas at a time when interest rates are at an all time high, long-term money is in short supply and the equity market is unfavourable."

None of these conditions have changed significantly since the preparation of that testimony in late November, 1975, and all of these conditions affect Union's business and financial risk.

Union estimates that its total capital expenditures for its fiscal period 1977 to 1980 inclusive, will be $257.7 million. Mr. O'Connor pointed out that of this amount $91.4 million will be expended for storage and transportation facilities and that before $65.7 million of this total amount is spent, Board approval must be obtained. Further, the sum of $45.7 million is needed to replace and upgrade old plant as required by the Transmission and Distribution Pipe Line Code. The balance of some $120.5 million will be expended on the attachment of residential, commercial and regular rate industrial customers. According to Mr. Stewart, Union is only extending service under very tight guidelines where the contribution from the additional sales of gas more than offsets the increases in the cost of service.

Mr. Webb questioned the marketing policy of Union as it affected its capital requirements. In his view it was unreasonable for Union to budget for large capital expenditures until such time as an adequate supply of gas is assured, which on the basis of the National Energy Board report is not expected until the early 1980's.

The Board shares this concern although it finds some comfort in Mr. Stewart's evidence that:

> "with regard to the economics of extending service to attach new customers, the gross margin . . . we anticipate to receive from this activity is in excess of 20 percent.

> That is certainly adequate to cover incremental costs and fixed costs . . . there is no additional cost to be borne by existing customers."

The Board agrees with Mr. Webb that the fact that interest rates are high, together with the possible shortage in gas supply makes it essential for Union to scrutinize, very carefully, all capital expenditures to avoid investment in non-contributing extensions and non-essential expenditures of all kinds.

2. Recommended Overall Rate of Return

Three principal witnesses gave testimony on the appropriate rate of return for the Applicant: Dr. S. F. Sherwin, Executive Vice President of Foster Associates, Inc., whose prefiled testimony on behalf of Union was filed as Exhibit 95; L. N. Watt, President of Fiscal Consultants Limited, whose prefiled testimony on behalf of Canadian Industries Limited, Allied Chemicals Canada Limited and Polysar Limited was filed as Exhibit 103 and Dr. M. J. Ileo, President of Technical Associates, Incorporated, whose prefiled testimony on hehalf of Board staff was filed as Exhibit 108.

Dr. Sherwin recommended a rate of return of 10.66 percent. Dr. Ileo recommended a rate of return in the range of 9.49 to 9.61 percent, and Mr. Watt recommended 10.29 percent on an adjusted rate base. The differences in the recommendations primarily resulted from differences in the capital structure used by each witness and from different conclusions on the costs of each component of capital.

3. The Capital Structure

Of great concern to the Board is the issue of short-term debt and whether it should or should not be included in the capital structure of Union. Union proposed a rate base of $474,319,000 and a capital structure of $325,900,000. A large part of the difference between these two amounts, some $67.1 million consists of short-term debt. This imbalance between rate base and capital existed in much lesser degree in the 1973 test year. In E.B.R.O. 309, the Board said:

> "The Board has carefully considered Exhibit 122 and 123 which indicate that, since the equity portion of the rate base is larger than the equity portion of total capital, a rate of return applied to the rate base develops equity earnings which will result in a higher rate of return if applied to the book equity component. In the Board's opinion, Mr. Stewart did not completely answer the questions raised by these Exhibits. Mr. O'Connor agreed that it was "theoretically possible" that the Applicant's approach could result in a higher return than that recommended by Dr. Sherwin but submitted that some flexibility in the rate-setting process was necessary to meet the problems of regulatory lag in inflationary conditions."

In the 1973 application Dr. Sherwin recommended a return on equity in the range of 14.25 to 14.75 percent. The Board, having considered all the evidence, including the apparent higher return on common equity that might be generated because of the difference between capital and rate base, determined that 14 percent was the reasonable rate of return on the common equity.

In Dr. Sherwin's view, short-term debt should be excluded from the capital structure of a utility unless it in fact financed capital elements or unless the utility was unable to finance long-term debt and was forced to finance part of its capital requirements by short-term debt. In Dr. Sherwin's opinion neither situation applied to Union in the present hearing. Dr. Sherwin also noted the difficulty, if short-term debt was included in capital, of determining its embedded cost because of the volatility of short-term interest rates. He also told the Board that if short-term debt was included in the capital structure, the utility would likely move to long-term debt to replace it, thus reducing the equity ratio to 21.2 percent. This reaction, he said, would be to the disadvantage of the consumer in that the return on common equity would have to be higher to compensate for this thinner equity as shown on Exhibit 96. In Dr. Sherwin's opinion it would be preferable to have a hypothetical capital structure for purposes of determining the rate of return rather than to use short-term debt as a component of the capital structure.

Mr. Watt agreed with Dr. Sherwin that short-term debt should not be included in the capital structure of the utility. However, he suggested several methods which the Board might use to ensure that the return on common equity would not be excessive.

- the final rate of return as determined by the

Board could be adjusted downwards and then applied to the rate base; or

- the rate base itself could be adjusted downwards for purposes of calculating the rate of return, although he did not particulary recommend this method; or
- the Board could determine a prospective cost of short-term interest for a specified period and allow Union to recover this sum in its cost of service. At the end of the period, when the actual costs were known, the rates charged to the customers could be adjusted to take into account any excess or deficiency in revenue resulting from this proposal.

Dr. Ileo recommended the inclusion of short-term debt in the capital structure of Union. In his opinion if short-term debt was excluded from the capital structure Union would earn the same return on it as it would on its common equity. Such return would be higher than the actual cost of the short-term debt. Further, Mr. Woollcombe said that by including the short-term debt in the capital structure, the shareholders of Union would know exactly what the return on the common equity was. Mr. Woollcombe submitted that such inclusion would enable the Board to properly calculate the income tax component of cost of service by taking into account all interest expense. Mr. Woollcombe did not agree with Mr. O'Connor's submission that the inclusion of short-term debt in the capital structure would increase the risk to the common shareholders since it was a fact that the debt did exist and that fact was evident in Union's financial statements.

Mr. Woollcombe argued that Dr. Sherwin's interpretation of the decision of the Alberta Board in Decision No. E 75143A dated November 20, 1975, on the Northwestern Utilities hearing did not support Dr. Sherwin's position that short-term debt should be excluded from the capital structure in the present application. In Mr. Woollcombe's submission, that decision supported the inclusion of short-term debt in the capital structure of a utility in circumstances similar to that in which Union finds itself in this application.

Dr. Sherwin said that he had agreed with the conclusion of the Alberta Board that short-term debt should be included in the capital of Northwestern Utility, (Dr. Sherwin had recommended this in his testimony) but he said he was able to distinguish that decision from Union's circumstances since in his opinion Union was not using short-term debt to finance permanent capital.

In reply argument, Mr. O'Connor supported Dr. Sherwin's interpretation of the Alberta decision and his exclusion of short-term debt from the capital structure. He said that Union was not asking for the same return on short-term debt as on the common equity, but was asking only for the 10.66% return which is the overall return which would be imputed to the assets financed by short-term debt if the latter was excluded from capital structure. Mr. O'Connor urged the Board to continue the traditional capital structure which excludes short-term debt and he argued against any adjustments such as those proposed by Mr. Watt which he categorized as "devoid of precedent, conceptually inappropriate and practically infeasible".

The Board has carefully considered the recommendation of the witnesses and the arguments of counsel on this issue. Although the Board does not look upon the Alberta decision as in any way binding upon it, it has considered that decision as well.

While Mr. Watt's proposals apparently did not have precedent in regulatory practice, the Board seriously reviewed them and the possible practical consequences which might result if any one of them were adopted. The Board is reluctant, having determined a rate of return on capital, to then manipulate or adjust the rate base or the total capital in order to produce the required revenue. Mr. Watt's third proposal of predetermining the cost of short-term debt for a specific period and recovering these costs in the cost of service with subsequent adjustments also does not appeal to the Board because of the numerous potential problems arising from either collecting any deficiency from or refunding any excess to those customers who should bear the costs of the short-term debt.

If Dr. Ileo's recommendation were implemented, the short-term debt outstanding at the end of the fiscal year would be included in the capital structure and the embedded cost would be calculated on the actual cost incurred in the year. Dr. Ileo calculated the embedded cost of short-term debt to be 9.48 percent. In the Board's opinion this is a conservative figure in view of the present day short-term interest rates of 10 to 10.25 percent. If financing costs of some .375 percent, as suggested by Mr. O'Connor, are added to the interest rate the present cost of new short-term debt is about 10.375 to 10.625 percent. This cost is close to the overall return requested by Union.

The Board does see some merit in including short-term debt as a component of the total capital simply because it would be a recognition of existing facts. On the other hand there is considerable difficulty both in determining the appropriate level of short-term debt as a component of the capital structure and in calculating the embedded cost of it. The Board is concerned that a miscalculation of either component could seriously affect the return accruing to the common equity holders which could damage the financial integrity of the Applicant. This concern coupled with the Board's interpretation of the Alberta decision that only if the total capital requirement of the utility cannot be met by means other than short-term debt, should it be included in the capital structure, leads the Board to the conclusion in this application that short-term debt should be excluded from the capital structure of Union. The Board therefore accepts the capital structure proposed by Dr. Sherwin, and substantially agreed to by Mr. Watt, of:

Long-term debt	57.0	percent
Preference Stock	13.0	percent
Common Stock Equity	30.0	percent
Total	100.0	percent

However, the Board will monitor the return earned by Union, and in the event that in its opinion an excess return is accruing to the common shareholders as a result of the exclusion of short-term debt from the capital structure, the Board will require Union to appear before it to show that the return on rate base is reasonable.

4. Cost of Capital

4.1 Embedded Cost of Long-Term Debt

Dr. Sherwin and Mr. Watt were in agreement that the appropriate embedded cost of long-term debt was 8.87 percent. Dr. Ileo recommended 8.49 percent.

Dr. Sherwin, in calculating the embedded cost of long-term debt adjusted the actual debt outstanding at March 31, 1976, by including a prospective debt issue expected to be made in 1976 of $30 million at an estimated interest rate of 10¼ percent and deducting $263,000 being the then forecasted profit on redemption. Dr. Sherwin considered the inclusion of the prospective bond issue proper for purposes of this calculation as the Board in E.B.R.O. 309 had taken into account two bond issues made subsequent to the test year but prior to the writing of that decision.

In his calculation, Dr. Ileo used the actual outstanding debt at March 31, 1976 adjusted upwards by long-term debt due in twelve months, but excluding the prospective $30 million bond issue, and deducted an updated forecasted profit on redemption of $384,000. This updated figure was subsequently further revised by Mr. Arndt to $417,000.

The Board is of the opinion that while it was reasonable in E.B.R.O. 309 to include debt issues made prior to its decision, but many months subsequent to the test year in determining the cost of debt at a time of rapidly rising interest rates, it should not include a prospective debt issue in determining the embedded cost of debt in this instance where a current test year has been used. As the Board has excluded short-term debt from the capital structure, it is of the opinion that, for purposes of calculating the embedded cost of debt, the debt outstanding at March 31, 1976, of $187.6 million should be used. However, the Board agrees with Dr. Ileo that in calculating the embedded cost the most recent forecasted profit on redemption of bonds should be used. According to Union's evidence, this amounts to $417,000. The Board therefore finds the embedded cost of debt to be 8.53 percent.

4.2 Cost of Preference Shares

Mr. Watt also agreed with Dr. Sherwin that the appropriate cost of preferred shares was 7.28 percent. Dr. Ileo recommended 7.18 percent.

In his calculation, Dr. Sherwin estimated the profit on redemption of preferred shares would be $111,000. Dr. Ileo used the figure of $180,000 provided by Mr. Arndt. All three witnesses assumed that the preference shares outstanding at March 31, 1976, amounted to $43 million.

The Board accepts Dr. Ileo's calculation of the cost of preferred shares as it appears to be based on more recent information provided by Union itself.

4.3 Cost of Common Equity

Dr. Sherwin recommended a return on equity of 15.5 percent on a 30 percent equity with an additional return on deferred taxes. Mr. Watt recommended a return of 14.25 percent on virtually the same equity ratio but with no return on deferred taxes, and Dr. Ileo recommended a 12.5 to 13.0 percent return on a 24.33 percent equity with an additional return on deferred taxes. Dr. Ileo's equity component was smaller because he had included in his total capital structure short-term debt.

The Board does not propose to review in detail the methods used by each witness to arrive at his recommendation.

Dr. Sherwin, using the comparable earnings, financial integrity and capital attraction test, concluded that the return on equity for high grade industrials would be, in the near future, in the 14 to 15 percent range. He took the mid-point in this range of 14.5 percent and allowed an additional 0.5 percent for Union's business risk and a further 0.5 percent to "take account of the risk created by the Ottawa/Alberta agreement setting the price of gas at $1.25 at the city gate".

Mr. Watt relied primarily on the comparable earnings test in concluding that 14.25 percent was an appropriate return on equity. He pointed out that while TCPL had been awarded 16.7 percent on a 23 percent equity by the National Energy Board, the award would work out to 13.5 percent on a 31.64 percent equity if TCPL's equity was adjusted to take into account an expected conversion of its preferred shares. In Mr. Watt's opinion Dr. Sherwin's recommendation of 15.5 percent was too high for several reasons. In his view, if Dr. Sherwin had taken into account the Canadian dividend tax credit, his recommended rate of return on equity would have been reduced to about 12.5 percent. Further Mr. Watt said that if Dr. Sherwin had used a year end common equity instead of the average, his recommended rate of return would have to be reduced by a further 0.6 to 1.0 percent. Finally, Mr. Watt said that if Dr. Sherwin's recommended rate of return on equity and capital structure were accepted by the Board and a further return on deferred taxes was allowed, Dr. Sherwin was in fact recommending a rate of return on equity of about 21 percent.

Dr. Ileo relied primarily on the comparable earnings test, using year-end common equity rather than the average. He concluded that a 12.5 to 13 percent return on equity on a 24.33 percent equity component was fair and reasonable in this application. In Dr. Ileo's opinion if Dr. Sherwin had used year end instead of average common equity, Dr. Sherwin would have concluded that the return to industrials on common equity would be in the 13 to 14 percent range rather than the 14 to 15 percent range found by him. Since Dr. Ileo was of the opinion that regulated utilities face less business risk than unregulated industry, he recommended that Union be allowed to earn a return on equity less than that generally earned by unregulated industry. Dr. Ileo was aware that Canadian decisions had awarded returns on equity higher than that which he had recommended, but he stated that these awards were too high.

Dr. Ileo agreed that a rate of return should be allowed on deferred taxes, but he pointed out, as had Mr. Watt, that because Dr. Sherwin had not included short-term debt in the capital structure of Union for rate-making purposes, the actual rate of return which Union could earn if Dr. Sherwin's recommendation were accepted by the Board would be 21.67 percent which was excessive in the circumstances.

The Board has already determined that short-term debt should not be included in the capital structure of Union for purposes of determining the total rate of return. The Board is aware that in so doing, the actual return earned on common equity may be higher than that allowed by the Board. In reaching its conclusion, the Board has considered the evidence not only of the three principal witnesses, but also of Dr. P. R. Andersen, R. W. Scott, M. H. Wilson and Mr. Stewart. The Board is of the opinion that had Dr. Sherwin used year end common equity for industrials in his comparable earnings test, he would have found the return on equity for industrials to be in the range of 13 to 14 percent as was found by Mr. Watt and Dr. Ileo. In view of the current economic and financial environment the Board is of the opinion that it is appropriate to use the upper limit of this range. The Board will make an additional allowance of 0.5 percent for Union's business risk. The Board does not consider that any adjustment should be made to compensate for the risk which Dr. Sherwin attributed to the "Ottawa/Alberta" agreement.

4.4 Deferred Income Taxes

The Board will continue its practice of imputing interest on deferred income taxes after deduction of non-utility items and will allow a return on deferred income taxes to the shareholders. However the Board will impute interest on year-end deferred income taxes rather than on the average as had been its past practice because it is dealing with a current year-end rate base. Both Mr. O'Connor and Mr. Woollcombe agreed that if such a change were made the interest should be imputed on $57,980,000. The Board concurs with this recommendation.

5. Summary

The Board concludes that a reasonable return on the rate base for Union is 10.14 percent determined from the overall cost of the various components of capital as follows:

	Amount ($ millions)	Percentage of Total	Cost Rate	Return Component
Long-term debt	187.6	57%	8.53%	4.86%
Preference shares	43.0	13	7.18	.93
Common equity	98.1	30	14.50	4.35
Total	328.7	100%		10.14%

TAB 2

REASONS FOR DECISION

In the matter of a Rate Application
under The Ontario Energy Board Act by

UNION GAS LIMITED

E.B.R.O. 367-I Phase I

July 7, 1978

Ontario
Energy
Board

Ontario

E.B.R.O. 367-I

IN THE MATTER OF The Ontario Energy Board Act, R.S.O. 1970, Chapter 312;

AND IN THE MATTER OF an application by Union Gas Limited to the Ontario Energy Board for an Order or Orders approving or fixing just and reasonable rates and other charges for the sale of gas and for the storage and transmission of gas for others.

BEFORE:	A. B. Jackson Presiding Member	)	September 19 and 20; October 17 and 31; November 1, 2, 3, 8, 21, 22, 23, and 30; December 1, 6, 7, 8, 15, 1977; and January 26; February 3, 7, 8, 9, 10 and 16, 1978.
	J. R. Dunn Member	)	

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C. THE REASONABLE RETURN

1. Introduction

The Board is required by the Act to determine a reasonable return on the rate base before finally approving or fixing any rates for the future. In carrying out this function, the Board is guided by some well-established principles accepted by North American regulatory agencies and by the leading case in Canada - the decision of the Supreme Court of Canada in Northwestern Utilities v. Edmonton [1929] 2 D.L.R. In the Board's opinion the criteria pronounced by the Court are consistent with the criteria of the leading U.S. cases in which the comparable earnings, capital attraction and financial integrity standards of cost of capital analysis are enunciated.

2. Economic and Financial Environment

In its October, 1974, decision on the rates of Union (E.B.R.O. 309), the Board took particular note of the high rate of inflation, strong demands for capital and high interest rates, and the climate of uncertainty as to availability of gas supplies and the consequences of higher prices. In its June, 1976, decision on a subsequent rates application of the same company, (E.B.R.O. 343) the Board again took note of these matters. In the present case, some changes are evident.

There has been some moderation of the high rate of inflation associated, unfortunately, with a sluggish economy. There has also been some reduction of interest rates and availability of funds which, along with other factors, has greatly assisted Union in recent financing. While some uncertainty exists as to the more distant future, there is no longer an expectation of shortage of gas for many years ahead. Unfortunately this new availability of supplies goes hand in hand with severe marketing difficulties attributable in part to competition from residual oil. All these matters are relevant for consideration by the Board in a general way in determining what return on the rate base is reasonable.

3. Applicant's Submission

Counsel for the Applicant commenced his submission on rate of return by quoting from the leading case of Northwestern Utilities Limited vs. City of Edmonton where the Supreme Court of Canada, per Lamont, J, said:

> ". . . By a fair return is meant that the company will be allowed as large a return on the capital invested in its enterprise (which will be net to the company) as it would receive if it were investing the same amount in other securities possessing an attractiveness, stability and certainty equal to that of the company's enterprise."

Counsel also referred to the Board's June, 1976, Reasons for Decision in the last Union rates case where the Board said, at page 21:

> ". . . in determining what is a reasonable rate of return, the Board has as its object to provide the consumer with the lowest rate practicable, consistent with protecting the Applicant's capability to provide efficient, adequate and reliable service and at the same time maintaining the Applicant's financial integrity."

Union originally proposed a rate of return of 10.77 percent in accordance with the evidence of Dr. Sherwin (Exhibit 81). In Exhibit 19E, prepared later and dated December 9, 1977, a rate of 10.73 percent was proposed, based on more up-to-date information. Finally, at the hearing on February 8, 1978, the Applicant put forward, in Exhibit 108, revised figures based on even more up-to-date information. Counsel for the Applicant showed, in his argument, that these would result in reverting to the earlier proposal of 10.77 percent, to be now made up as follows:

	($000's)	Percentage	Cost Rate	Return Component
Long-term debt	254,000	58.3%	9.44%	5.50%
Preference stock	43,500	10.0%	7.48%	.75%
Common equity	138,000	31.7%	14.25%	4.52%
Total	435,500	100.0%		10.77%

Counsel pointed out that the increase in the rate of return from the Board's last allowance of 10.14 percent is nearly entirely due to the increase in the embedded cost of long-term debt from 8.53 percent to 9.44 percent. He also submitted that the 10.77 percent rate satisfied the traditional proven tests to which the Board has had regard and that now is not the time to experiment with other tests.

4. Other Submissions

Counsel for IGUA submitted that the Board, in determining the reasonable return on the rate base, should identify separate kinds of capital that finance the rate base, and should then determine the annual cost or reasonable return for each and sum them up. In particular, he contended that it is necessary to consider specifically the cost of short-term debt and the return on deferred taxes and give them an appropriate weighting. Subject to their inclusion in this way and to an adjustment of the weighting of long-term debt, preference stock and common equity, he said that the Board might accept the Applicant's evidence of cost rates for these last three components of 9.44 percent, 7.48 percent and 14.25 percent, respectively. His conclusion was that the reasonable return for the test year would then be $51.402 million, calculated as follows:

	Rate Base Component	Rate	Return Requirement
Long-term debt	$254,000,000	9.44%	$23,977,600
Preference stock	43,500,000	7.48%	3,253,800
Common equity	127,900,000	14.25%	18,225,750
Deferred taxes	71,100,000	1.33%	945,630
Short-term debt	52,900,000	9.00%	4,761,000
Residual capital	17,966,000	1.33%	238,948
Total	$567,366.000		$51,402,728

There was some uncertainty as to the rate to apply to "residual capital". It was proposed that if the Board concluded that it was derived from short-term borrowings, the cost would be $1,616,940, being 9 percent of $17,966,000, and the total return requirement would then be $52,780,720. The Applicant's comparable figure for return requirements would be 10.77 percent of $569,617,000 (i.e. the composite rate of return applied to Union's proposed rate base) less imputed interest of 9.44 percent on year-end accumulated deferred taxes of $71,100,000 for a resulting figure of $54,635,911. The Board therefore concludes that IGUA considers Union's calculation of return requirements to be excessive by at least $1,855,191, being the difference between $54,635,911 and $52,780,720.

The City of Windsor submitted that the Applicant's proposed rate of return of 10.77 percent might result in an excessive return on book equity and recommended that any increase in the rate of return, over that found reasonable in the past, receive the most careful and critical scrutiny of the Board.

The City of Kitchener also did not make a specific recommendation as to the appropriate rate of return in this case, but submitted for the Board's consideration that the need for an allowance in the fair return for "regulatory lag" has been lessened by the use of a prospective test year.

Osler supported, generally, the claim of Union but because of some differences in capitalization ratios arrived at a rate of return of 10.80 percent. This was said to be the minimum return that should be allowed at this time in view of the current equity ratios, rates of return and risks of those regulated companies Osler is familiar with, which are outlined on page 40 of Exhibit 99.

Mr. H. Derrick Leach was retained by the Board to present evidence on the fair return and to assist the Board, through Board counsel, in assessing the value of other evidence on the subject. Board counsel, in preparing argument, had the benefit of this evidence and his own familiarity with previous Board practice and was also able to call for assistance on Board staff assigned to the case.

Board counsel suggested that the Board might look with favour on the proposal of IGUA to adopt a new approach to determining the fair return or, alternatively, might continue with its past practice but apply the practice in a way somewhat different from the Applicant.

One of the important changes Board counsel proposed, in developing the latter alternative, was in the capitalization to use in analysing return requirements. Union has a controlling interest through an investment as at March 31, 1978, of some $10.1 million, in Major Holdings and Developments Limited ("Major Holdings"), a real estate development company which is self-financing and whose business is unrelated to the utility operation. Union proposed that the realty debt of Major Holdings be excluded from the consolidated capital structure but that no exclusion of equity be made. The resulting capital structure, for purposes of analysing the fair return in the traditional way, was 58.3 percent long-term debt, 10 percent preference shares, and 31.7 percent common equity. Board counsel's submission, based on the evidence of Mr. Leach, was that, in addition, Union's entire $10.1 million investment in Major Holdings should be eliminated from the common equity. The capital structure would then be 60 percent long-term debt, 10 percent preference shares and 30 percent common equity.

The other important change proposed was in the cost rates to apply. Board counsel thought that, on the evidence before it, the Board might fairly use the cost rates for long-term debt and preference stock used by Union. Thus, the outstanding question was the return on common share equity. Mr. Leach proposed a return of 12.75 percent calculated upon year-end equity capital and 13.50 percent calculated upon mid-year capital. The overall returns on rate base resulting from the Leach treatment of capitalization and equity returns, would be 10.20 percent and 10.42 percent respectively, as compared to the Applicant's requested 10.77 percent. Using the Applicant's earlier request of 10.73 percent, Mr. Leach showed that the difference was $3,567,000 in the case of his 10.20 percent and $5,977,000 in the case of his 10.42 percent. Board counsel submitted that the fair return on equity would be somewhere between 12.75 percent and 14.25 percent.

5. Findings of the Board

In determining the fair return, the Board reviews the cost of capital of various kinds and then, after appropriate weighting of each kind, determines a composite cost. Because the costs of the different capital vary, the kinds and amounts of capital of each kind used in the process are of major importance. The Board has followed the practice of building up a composite cost of permanent capital, that is to say, long-term debt, preference stock and commmon equity. A major issue in this case, as it was in the last Union rates case, is whether the Board is right to exclude short-term debt in its analysis of the fair rate of return.

There are practical reasons for exluding short-term debt. It provides flexibility in long-term financing and therefore tends to vary greatly in amount over time. Moreover, the cost of short-term debt varies greatly over time. On the other hand there are logical reasons for including it. It is in fact one of the sources of funds and its use on a large scale of nearly $70,000,000, when the cost of such funds is relatively low, enables the utility to enhance its common share earnings.

The Board has carefully reviewed the arguments on this point and the Board's discussion of it at pages 24 to 30 of its Reasons for Decision of June 30, 1976, in the last Union rates case (E.B.R.O. 343-I) and has in this case decided not to depart from its established practice. The important consequences of continuing large scale use by the Applicant of short-term debt financing will therefore be kept in mind by the Board in determining the fair rate of return to allow on common equity capital when developing the overall fair rate of return on rate base.

Another issue of importance in the analysis of the cost of money for the purpose of determining the fair return on rate base is the treatment of deferred taxes. This is of importance in the case of the Applicant as the accumulated amount involved is over $70 million. The Board does not think it necessary in these Reasons for Decision to undertake a detailed review of deferred taxes and their regulatory treatment. The amount can be regarded as an interest-free loan from the income tax authorities and the benefits can be passed on to customers and shareholders in different ways. In the case of the Applicant, the Board has followed the practice of excluding deferred taxes from capitalization when determining the amount of the fair return but then deducting, when determining the total cost of service, an amount for the benefit to customers of such use. The amount is calculated by applying the cost rate for long-term debt to the year-end accumulated deferred taxes. The effect of this treatment is that in determining the cost of service for rate making the major part of the benefit is passed on to customers and a minor part is retained for shareholders. This was the intended effect and the consequence must be accepted that the benefit will be reflected in an enhanced return on common equity.

The Board has carefully reviewed the arguments in this case, and its established practice, and does not think a case has been made for departing from the established practice. However, the Board will have regard in a general way, in determining the fair rate of return, to the substantial benefits accorded to the Applicant by the Board's treatment of deferred taxes.

Following from the foregoing considerations the Board concludes that the fair rate of return should be determined, as in the past, from an analysis of the cost of long-term debt, preference stock and common equity and the weighting to be given to each. The weighting is determined from an analysis of capital structure comprising the three components mentioned above. Although the Board has given preference to this approach in this case, it recognizes that there is a possible alternative treatment of short-term debt and deferred taxes as proposed by IGUA.

The Board is generally satisfied with the submission of the Applicant as to capital structure, except with respect to the way in which the actual consolidated capital structure was modified to take account of the Applicant's investment in Major Holdings. The Applicant excluded Major Holdings' debt from the long-term debt component of capital structure but did not exclude Union's investment of about $10 million from the common equity component. The implication of not doing so is the investment in the common shares of Major Holdings is deemed to be financed at the same debt-equity ratio as the investment in utility property. The Board has carefully reviewed all the evidence and argument on this point and is satisfied that, in adjusting the consolidated capital structures in order to develop a capital structure for utility operations, the investment in the common shares of Major Holdings should be attributed to and removed from the common equity of Union, reducing it to $127.9 million (see Appendix C).

With the treatment used by the Applicant, the capital structure for utility regulatory purposes would be:

Long-term debt	58.3%
Preference stock	10.0%
Common equity	31.7%
	100.0%

With the treatment found by the Board to be appropriate, the capital structure is:

Long-term debt	60%
Preference stock	10%
Common equity	30%

Having determined capital structure for the purpose of weighting the costs of long-term debt, preference stock and common equity, it is necessary to determine what those costs are. The Board finds on the record that the Applicant's latest submissions with respect to the first two components are acceptable. These are:

Long-term debt	9.44%
Preference stock	7.48%

The major question remaining is what rate to allow for a fair return on the common equity. The rate found fair by the Board in June, 1976, in the last major Union rates case was 14.50 percent. The rate proposed by the Applicant in this case was 14.25 percent. The rate proposed by Mr. Leach, the expert retained by the Board, was 12.75 percent calculated from application of the comparable earnings test using year-end equity capital and 13.50 percent using mid-year capital. In the opinion of the Board, the use of the lower figure would nullify the objective of the Board of overcoming regulatory lag by using a year-end rate base, and 13.50 percent is the more appropriate of Mr. Leach's two figures to consider in the Board's determination of fair return on rate base. It may be that the use of a year-end rate base over-corrects for regulatory lag, especially in a time of rapid expansion and with the use of the current year as a test year and the granting of interim rate increases, but the Board is not prepared on the record in this case to make such a finding. Mr. Leach calculated that the use of the 13.50 percent return on equity in determining the fair return would produce an effective return on common equity of 16.73 percent.

The submission of the Applicant is set forth in its counsel's argument-in-chief at pages IV-9 to IV-28. The Applicant drew attention to Canada's current economic difficulties and submitted that the level of industrial earnings is inadequate to satisfy the financial integrity and capital attraction tests. The Applicant therefore gave added importance to earnings and allowable earnings of other Canadian public utlities, to a sort of normalizing of earnings of industrial companies, and to the need for adequate earnings for the Applicant under the tests of financial integrity and capital attraction. The Applicant submitted that it is important to attempt to maintain a market-to-book ratio for common stock of 120 percent.

The submission of Board counsel on the cost of common equity, including a review of the evidence, is set forth in his argument at pages 91 to 130. He said that the fundamental difference between the Applicant's evidence and that of Mr. Leach was with respect to the applicability of the comparable earnings test, that Mr. Leach did not ignore the other tests and that the Applicant, in applying them, placed undue reliance on the maintenance of a market-to-book ratio of 120 percent. He pointed out that in recent decisions the National Energy Board and the Ontario Energy Board, itself, have given little support to the use of market-to-book ratios. He submitted that the Board, in finding a fair rate of return on the equity somewhere between the rates proposed by Mr. Leach and the Applicant, should consider the following:

> "1. Is it appropriate to use a capital structure for Union which excludes the debt of, but includes Union's common equity investment in, Major?
>
> "2. How much weight can be given to market to book ratios when market prices can be influenced by factors other than earnings such as the prevailing economic climate, the general corporate image and the state of investor confidence which frequently incorporates an element of irrationality with respect to future earnings capacity?
>
> "3. Assuming there is a co-relation between the level of earnings and market to book ratios, are there any clear measures as to the degree to which earnings must be adjusted to achieve a particular market to book ratio?
>
> "4. What weight should be given to the results of the comparable earnings test having regard to the prevailing economic climate?
>
> "5. Should the present earnings of high grade Canadian Industrials be ignored completely?
> "6. What weight should be given to an estimate of what high grade Canadian Industrials might earn some time in the future?
>
> "7. If the comparable earnings test is applied, should there be any "risk premium" in the case of Union?
>
> "8. What is the effective return on common equity based upon the Board's finding as to the cost of common equity?"

Counsel for the Applicant dealt further with the question of the fair return on common equity in his reply argument at pages III-8 to III-32. He drew particular attention to the financial and business risks of the Applicant. He said also that the Board, in a recent decision on Consumers', did not tie its return finding to a specific market-to-book ratio but did rely on the fact that a majority of high grade industrials are presently selling below book value as a basis for rejecting reliance on the comparable earnings test.

The Board has carefully reviewed all the evidence and argument on the question of the fair return on common equity. The submission of the Applicant has been prepared in general accordance with principles and methods found by the Board in the past to be acceptable in the case of Union, except that in drawing conclusions from the evidence the Applicant has given too little weight to comparable earnings. As a consequence the rate of 14.25 percent is too high, in the opinion of the Board.

Mr. Leach has shown that a rate of 13.5 percent would produce an effective return on common equity of 16.73 percent. The effective rate is high mainly because, under the principles applied by the Board in determining the fair return, the shareholders receive benefits from the investment of deferred taxes in the utility business and from financing by means of short-term debt. These underlying expectations are taken into account in determining the fair return on rate base by considering the effective rate of return on common equity.

The Board is satisfied that when due regard is given in particular to comparable earnings and to effective return on common equity, as well as to all the other relevant matters, it must find excessive the rate of 14.25 percent proposed by the Applicant. Comparable earnings considered alone, indicate a rate closer to 13.5 percent. The Applicant's own evidence shows that its proposed 14.25 percent return on common equity would produce an effective return of 16.1 percent. The Board recognizes that the Applicant's proposed rate is less than the 14.50 percent found by the Board to be reasonable two years ago and that the resulting effective rate is also lower. However, this is as it should be having regard to the decline in comparable earnings since that time.

The Board finds, on the record in this case, that a rate of return on common equity to use at this time should be no greater than 13.9 percent. The resulting effective return, as calculated by the Board, would be 16.1 percent (see Appendix C). This latter figure must be used with caution having regard to the explanations given earlier in these Reasons for Decision and to some differences in the way of calculating the effective return. Nevertheless, it has a significance that sophisticated investors and their financial advisors may be presumed to appreciate. The level of the effective rate might suggest that the rate of 13.9 percent is too high to use in determining the fair return. However, investors will undoubtedly be conscious that it represents a substantial reduction from the rate considered reasonable by the Board two years ago and the Board does not think that a finding of a lower rate in this case would be in the best interests of the company, its investors and, in the long run, its customers. Accordingly, the Board finds that the fair rate of return on the common equity is 13.9 percent and the overall rate to be applied to the rate base in determining the fair return is 10.58 percent, calculated as follows:

	Percentage	Cost Rate	Return Component
Long-term debt	60%	9.44%	5.66%
Preference stock	10%	7.48%	0.75%
Common equity	30%	13.90%	4.17%
			10.58%

Applying the rate of 10.58 percent to the rate base of $563,302,000, the fair return is $59,597,000 (see Appendix C).

TAB 3

Ontario
Energy
Board

REASONS FOR DECISION

in the matter of a rate application
under The Ontario Energy Board Act by

UNION GAS LIMITED

E.B.R.O. 371-I - Phase I

April 22, 1980

Ontario
Energy
Board

Ontario

E.B.R.O. 371-I

IN THE MATTER OF The Ontario Energy Board Act, R.S.O. 1970, Chapter 312;

AND IN THE MATTER OF an application by Union Gas Limited to the Ontario Energy Board for an order or for orders approving or fixing just and reasonable rates and other charges for the sale, distribution, transmission and storage of gas.

BEFORE:

S. J. Wychowanec
Vice Chairman and
Presiding Member

J. R. Dunn
Member

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C. RATE OF RETURN

1. Economic Outlook

On October 26, 1979, Mr. R. E. Lint, Vice-President and Director of Dominion Securities Limited, updated his pre-filed testimony, Exhibit 12, by describing the economic conditions and outlook prevailing at that time. He stated that the New York and Toronto capital markets had been in "near chaotic conditions" for several weeks. He was concerned about the rapidly accelerating rate of inflation in the United States, which he feared would have like impact in Canada. He noted that interest rates in both the United States and Canada were and continue to be at an all time high and increasing oil prices continue to exacerbate these problems.

It was Mr. Lint's opinion that "until some tangible evidence of a slowing inflation is evident in the United States, we do not expect interest rates there to moderate substantially". However he believed that short-term and long-term interest rates had peaked both in the United States and Canada and that some reduction in these rates could be expected in mid-1980.

Mr. Lint referred to the "corrections" which were taking place in the last quarter of 1979 on the Toronto Stock Exchange and explained the effect of these market conditions on the shares of Union. The price of Union shares had dropped from a high of 12 7/8 to 10 1/2 at the time the testimony was given.

Dr. Sherwin concurring with Mr. Lint's observations summed up his view of the economic outlook as a "relatively long period of tight money and high interest rates".

On a more optimistic note, from the evidence it appears to the Board that Union no longer faces a shortage of natural gas. Indeed, the concern about possible shortages of oil, particularly in the residential and general service categories, has resulted in so many orders for conversion from oil to gas, that Union cannot immediately fulfill all of the requests. Furthermore, Mr. Shillington acknowledged that there was slightly less price competition in the market from residual oil than in previous years.

2. Union's Submission

Relying on the evidence of Dr. Sherwin (Exhibit 13), Union requested a rate of return on rate base of 10.95 percent determined on the basis of the following capital structure:

TABLE A

	Amount ($ millions)	Percentage of Capital %	Cost Rate %	Return Component %
Long-term debt	298.0	56.1	9.83	5.51
Preference shares	80.3	15.1	7.40	1.12
Common equity	152.7	28.8	15.00	4.32
		100.0		10.95

Union stated that this capital structure was developed in accordance with principles set out in past decisions of this Board.

In calculating the cost of long-term debt, Union has included a prospective debt issue of $60 million at a coupon rate of 10.5 percent. Union says however that it cannot issue bonds in the near future at this interest rate. It expects that the bonds will carry a coupon rate of 12 percent which would result in a cost rate for long-term debt of 10.07 percent. Nevertheless, Union made no adjustment for this increase in its capital structure. The cost of preference shares at 7.40 percent has declined from 7.48 percent last allowed by the Board as a result primarily of the sale of a 7 percent preferred-share issue completed in September 1978.

Union, again relying on Dr. Sherwin's testimony, submitted that a reasonable return on common equity is "no less than 15 percent". Dr. Sherwin, using the comparable earnings test, concluded that the current and prospective return on average equity of Canadian industrials, having investment risk similar to that of Union, was in the range of 14.5 percent to 15.0 percent. When financial integrity and capital attraction tests were applied, the range became 15.0 to 15.5 percent. Dr. Sherwin recommended 15.0 percent on common equity because of Union's prospect of additional earnings on equity from deferred taxes and financing with short-term debt.

Union excluded short-term borrowing from its capital structure even though this component is estimated to be \$82.3 million at March 31, 1980, or \$142.9 million if no long-term debt issue is completed. Dr. Sherwin in Exhibit 13A, Schedule 7, attributed only \$31.6 million of short-term debt to the utility operations.

3. Intervenors Submissions

Mr. Thompson for IGUA challenged the capital structure submitted by Union. He argued that part of the possible bond issue of \$60 million should be excluded from the long-term debt component and that short-term debt in the amount of \$57.6 million should be added to the capital structure. He accepted the equity component as presented by Union. The capital structure he proposed then would be as follows:

TABLE B

	Amount ($ millions)	Percentage of Capital %
Long-term debt	272.0	49
Short-term debt	57.6	10
Preference shares	80.3	14
Common equity	152.7	27

Mr. Thompson argued that no return should be earned on deferred taxes (amounting to $88 million in the test year according to Union), and that that amount should be deducted from rate base following the practice of the National Energy Board.

Addressing himself to the issue of rate of return, he said:

> "In our submission the overall rate of return should be determined by appropriately costing these separately identifiable sources of capital which serve to finance Union's investment in utility rate base."

He reluctantly accepted the embedded cost of long-term debt at 9.83 percent and the cost rate for preference shares of 7.40 percent. He urged the Board to cost short-term debt at 10.77 percent. On the issue of return on common equity, Mr. Thompson cited two tests which

Union should meet before the allowed return on this component is increased. Union had to prove, firstly, that the consolidated company was having difficulty in raising capital, and secondly, that the inability to raise capital by this consolidated operation was caused by an inadequate return allowed on the common equity attributable to the utility. If these two factors were clearly established, then using the comparable earnings test, capital attraction test and financial integrity test, the Board should consider an increase. The return on common equity which he recommended to the Board was 14.25 percent, however, this recommended return was both the actual and effective rate of return under Mr. Thompson's proposed capital structure.

Mr. Ryder, counsel for the City of Kitchener, also expressed concern about Union's failure to include short-term debt in its capital structure. He rejected Dr. Sherwin's application of the comparable earnings test because he said that the companies used were not homogenous with respect to risk and consequently "there is absolutely no reason to assume that either group is comparable to Union Gas". Mr. Ryder questioned the use of this test by Mr. Leach as well. Mr. Ryder argued that the discounted-cash-flow test to determine a fair rate of return was inappropriate and cited the Board's decision in the recent Consumers' case, E.B.R.O. 369-I-A, as supporting his submission in this regard.

Mr. Ryder favoured the use of the "Capital Asset Pricing Model", a technique which was not examined in the hearing. He described the model as follows:

> "This model states that the return required on a share is equal to the return required on a risk free investment plus a premium for risk. The risk premium is directly related to the variability of this stock relative to the market or Beta."

In his summary on this issue he recommended a rate of return on common equity in the range of 14.0 percent to 14.2 percent.

4. Board Staff Submission

Mr. H. D. Leach was retained by the Board to examine Union's capitalization and revenue deficiency and to examine return on common equity. He too was concerned about the fair allocation of the cost of capital between utility and non-utility functions. He recognized the difficulties involved in making such allocation and although he did make such allocation for purposes of the hearing, he stated that it was not a precise calculation because he did not have access to necessary information. In making the allocation, he identified those funding sources specifically relating to certain assets, and allocated the remainder on a pro rata basis. He recommended that an analysis of the historic makeup of the capital employed in the utility's operation, similar to the studies ordered by the Board for both Northern and

Central Gas Corporation Limited and The Consumers' Gas Company be ordered for Union.

Although Dr. Sherwin's capital structure differed substantially from that used by Mr. Leach, the percentage ratios for calculating the composite rate of return on rate were almost identical. Mr. Leach's capital structure and the percentage ratios are as follows:

TABLE C

	Amount ($ millions)	Percentage of capital %
Long-term debt	273.996	56.1
Preference stock	74.436	15.2
Common equity	139.932	28.7
	$488.364	100.0
Short-term debt	85.478	
Deferred Taxes	76.750	
	$650.592	

Mr. Leach and Board counsel in argument accepted with some reservation Union's cost rate for long-term debt and preference share capital. Neither agreed with Union on the appropriate cost rate for common equity. In Exhibit 70, Mr. Leach described in detail how he arrived at his recommended rate. Very briefy stated, by using the comparable earnings test, he found a range of equity returns from 13.90 percent for year-end equity to 14.60 percent for mid-year equity. After applying a number of other tests, all of which are detailed in Exhibit 70 and Exhibit 70A, tests which Mr. Leach categorized as "fine tuning", he recommended a rate of return on common equity for Union of 14.15 percent.

5. Findings of the Board

As in the previous two hearings, the questions of whether and how much short-term debt should be included in the capital structure of a utility for purposes of determining a fair rate of return continued to be major issues. As previously noted the total short-term debt for Union at the close of its test year is estimated at $82.3 million of which Union allocated $31.6 million to the utility operations, Mr. Thompson $57.6 million and Mr. Leach $85.5 million. Regardless of which figure is used, these funds have become significant in Union's money requirements. Union excluded short-term debt from its capital structure relying on the Board's earlier decisions wherein the Board had determined Union's capital structure on the basis of permanent capital. Mr. Jolley in his reply argument said:

> "With the exception of its investment in the shares of Major Holdings, Union attributed all of its permanent capital to the utility rate base, and treated only the excess of rate base over permanent capital as having been financed by short-term debt. This is consistent with the Board's numerous pronouncements in past

> proceedings that utility assets should be viewed as having been financed primarily by permanent capital."

Board counsel argued that the Board should re-examine the issue both because of the magnitude of the short-term debt and the "permanency" which now seems to characterize the use of short-term debt to finance capital assets. In this he was strongly supported by both Mr. Thompson and Mr. Ryder.

In the Board's last decision on this matter, E.B.R.O. 367-I, the Board continued its practice of excluding short-term debt from the capital structure of Union, but at the same time it said that:

> ". . . the important consequences of continuing large scale use by the Applicant of short-term debt financing will therefore be kept in mind by the Board in determining the fair rate of return to allow on common equity capital when developing the overall fair rate of return on rate base."

In another context in the same decision, the Board also observed that while the year-end value of long-term debt represents ongoing value, the year-end value of short-term debt does not. The figure of $31.6 million used by Dr. Sherwin is a residual figure which was used to reconcile the capital structure with Union's proposed rate base. Presumably as the rate base is varied, the short-term component varies in concert. In any event, the value of this component has little relationship to the actual amount of short-term debt outstanding at the close of test year or for that matter with the monthly average short-term debt.

The Board has considered this issue very carefully in this hearing, and while there is much to be said in favour of including short-term debt in the capital structure, the Board is of the opinion that it would be inopportune to reverse its previous decisions at this time. For purposes of this decision, the short-term debt component will not be included in the capital structure but the Board will accept the amount of $85.478 million of short-term debt allocated by Mr. Leach to utility operations but reduced in proportion to the Board's determination of rate base to $83.021 million.

The Board analyzed the treatment of deferred taxes on pages 48-49 of the Reasons for Decision, E.B.R.O. 367-I, and it does not think it necessary to repeat the analysis in these Reasons for Decision. Although the Board has some concern as to the amount of deferred taxes which are properly attributable to the utility operation, for purposes of this decision its treatment of deferred taxes will not depart from the established practice and it will accept the amount of $76.750 million as allocated by Mr. Leach but reduced in proportion to the Board's determination of rate base to $74.544 million.

In summary, the Board concludes that the fair rate of return should be determined as in the past from the analysis of the cost of long-term debt, preference shares and common equity and the weighting to be given to each.

Union stated that its submission as to the company's capital structure reflects the Board's latest decision in this issue, E.B.R.O. 367-I. The major adjustments to the consolidated capital structure result from the substantial allocations of deferred taxes and short-term debt to non-utility investment. Another adjustment reflects the restatement in the investment in Major Holdings Limited ("Major Holdings"). The Board accepts Union's restatement of its investment in Major Holdings as a more realistic reflection of the transaction.

Union has included in the debt component a prospective debt issue of $60 million. Initially, according to Dr. Sherwin's evidence, this issue was scheduled for October 1979. At the conclusion of the hearing no debt had been issued, but at the time of writing these Reasons for Decision, the Board understands that Union has raised $60 million through the sale of debentures.

Although the Board was urged by some to exclude the prospective debt issue, since it had not taken place at the time of completion of the hearing, the Board is of the opinion that, in the circumstances prevailing, it ought to include the $60 million issue as part of the debt component. The Board recognizes, as did Mr. Leach himself, that his modifications to the capital structure were arbitrary and limited. However in the Board's opinion, his approach to this problem is more realistic than that of Union and, lacking a more comprehensive allocation for the purpose of determining the ratios of the capital components in this proceeding, the Board accepts the capital structure proposed by Mr. Leach as adjusted by the Board in this decision:

TABLE D

	Leach Proposal ($ millions)	As Adjusted by the Board ($ millions)	Percentage of Capital %
Long-term debt	273.966	266.122	56.1
Preference shares	74.436	72.297	15.2
Common equity	139.932	135.911	28.7
			100.0

The Board accepts Union's costs for the first two components, namely, 9.83 percent for long-term debt and 7.40 percent for preference shares.

The major question remaining is what rate to allow for a fair return on equity. In E.B.R.O. 367-I, the Board commented that Union had given too little weight to the comparable earnings test in support of its proposed rate of return on equity. In this hearing, Union's submission on this issue has followed the principles previously accepted by the Board.

As was pointed out by Board counsel in argument, after the comparable earnings test is applied by Dr. Sherwin and Mr. Leach, the difference in their recommendation is small -- Dr. Sherwin finding a return on equity in the range of 14.5 to 15.0 percent, while Mr. Leach finds a range of 13.9 to 14.6 percent. The spread between the final recommendations increases slightly when further judgment is applied by each witness. Dr. Sherwin supports the upper range because of Union's low equity component, its inability to earn the allowable return on rate base, its marketing difficulties and the effect of inflation on earnings. On the other hand, Mr. Leach reduced the upper range for a reasonable return on common equity for Union because of the use of a year-end rate base, the adequacy of the interest coverage of 2.8 to 2.9 in present circumstances, improved marketing conditions and the forward-looking characteristics of the test year. Based on these judgments Mr. Leach's final conclusions is that "the Board seriously consider awarding a return in the region of 14.15 percent on common share equity."

The Board is aware that Union has not been able to earn the rate of return on rate base approved by it in E.B.R.O. 367-I, however, the Board cannot on the evidence before it quantify the impact of Union's non-utility investments on its ability to either attract capital or earn its allowed return. Certainly the performance to date of Major Holdings must have a negative effect. (Union estimates earnings of $1.57 million for the test year, however Exhibit 45 indicates a loss of $671,000 for the first half of the year.) Both Mr. Arndt and Dr. Sherwin stated that shareholders were at risk because of Union's heavy reliance on short-term borrowing. According to Union's evidence a major portion of short-term debt is used to finance its western Canadian venture. Although Mr. Lint and Dr. Sherwin said that these diversifications into non-utility activities have had a positive effect on Union's ability to attract capital, the Board is not yet fully convinced that this is so.

As to marketing difficulties, Mr. Shillington in his evidence indicated that "there is less price competition or slightly less price competition in the market than there was . . . a year and a half ago". Mr. Shillington went on to say that there are other forms of competition than price, but the Board takes from his evidence that overall the market conditions are improving.

Of the three major gas utilities regulated by this Board, Union has the lowest equity component. At pages 52-53 of Exhibit 13, Dr. Sherwin stated:

> "Financial theory as well as regulatory practice, has recognized that lower equity ratios call for higher rates of return on equity. Although one cannot pinpoint the precise increment of equity return required to compensate for the increased financial risks of a decline in the equity ratio I suggest the following constitutes a reasonable approximation:
>
> "Starting with a 32.5% equity ratio (mid-point between 30% to 35% range) every five percentage-point decline in the equity ratio calls for an increase of one percentage-point in the equity return requirement. Above a 35%

equity ratio, I would reduce the equity return by 0.5 percentage-point for every five percentage-point increase in the equity ratio."

The Board has doubts that the relationship between the ratios of the equity component to the total capital of the company and the return on equity can be or should be reduced to such a fine science as that described by Dr. Sherwin in his testimony. It can be inferred from Exhibits 43 and 44 that investors, when looking at the return on capital for Union, do take into account the fact that the Board uses the year-end capital structure and allows a return on accumulated deferred taxes. It appears to the Board that these factors may mitigate the effect of the thinner equity. The Board does not find Dr. Sherwin's reasons for increasing his return on common equity to a range of 15.0 percent to 15.5 percent to be supported by the evidence in this hearing.

The Board finds Mr. Leach's approach to the comparable earnings test to be more reasonable than that used by Dr. Sherwin. As previously noted, the range of return on common equity was found by Mr. Leach using this test to be 13.9 percent to 14.6 percent. After he applied his financial integrity test to the range, he said that 14.25 percent appeared to be closer to a reasonable return rather than the lower end of the range. This rate was confirmed by Mr. Leach when he applied the capital attraction test as well. Although Mr. Leach categorized the final "fine tuning" as having, in his opinion, a neutral effect, nevertheless it lead him to the conclusion that a return of 14.15 percent was appropriate.

The Board does not find the different results using the comparable earnings test to be disconcerting or indeed unexpected. Based on the evidence of both witnesses, the Board is of the opinion, that, using this test, rate of return on common equity in the range of 14.0 percent to 14.6 percent is reasonable. The Board does not give much weight to either the capital attraction test (which relied on U.S. data) or to Mr. Leach's fine tuning. However, taking into account the evidence on the effect of the prevailing and expected conditions affecting Union, the Board finds that a rate of return of 14.50 percent on common equity is reasonable.

The fair rate of return on rate base is therefore calculated as follows:

TABLE E

	Amount ($ millions)	Percentage of Capital %	Cost Rate %	Return Component %
Long term debt	266.122	56.1	9.83%	5.51
Preference shares	72.297	15.2	7.40	1.12
Common equity	135.911	28.7	14.50	4.16
		100.0		10.79

Applying the rate of 10.79 percent to the rate base of $631.895 million and deducting imputed interest on deferred income taxes results in a fair return of $60.853 million as shown in Appendix 'B'.

The Board has also considered the arguments of various counsel for the need of a capital study to be made with respect to Union. The Board thinks there is need to clarify and quantify the impact of Union's diversification on the utility operations and to review and refine the method of allocating capital to utility and non-utility activities. In the Board's opinion, both Union's customers and shareholders would be better served by a study of these aspects. Furthermore, the Board believes that its deliberations in future will be assisted by such a study. The Board therefore requires Union to retain the services of an independant expert to undertake a study for purposes of its next Phase I hearing, which study will allocate all of Union's funding between utility and non-utility activities and will determine the costs pertaining to long-term debt, short-term debt and preference shares. The study shall also address the appropriateness of including other components in Union's capital structure. The terms of reference for the capital study are to be approved by the Energy Returns Officer of the Board prior to its commencement.

TAB 4

REASONS FOR DECISION

in the matter of a rate application
under The Ontario Energy Board Act by

UNION GAS LIMITED

E.B.R.O. 380

September 14, 1981

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D. REASONABLE RETURN

Introduction

The primary responsibility of the Board under the Act is to fix just and reasonable rates and other charges for the sale of gas. In achieving this objective, the Board is required to determine the rate base for the utility operation and this has been done in the preceding section of these Reasons for Decision. The cost of the capital employed in financing the rate base is a key element in the determination of the total revenues to be derived from the rates and other charges. There was considerable time dedicated during the hearing to discussion on the nature of the capital employed in financing the utility rate base.

The quantification of the components of capital employed in the utility operation has become increasingly difficult as a result of the Applicant's continued diversification program that now involves substantial non-utility and therefore unregulated activities. In recognition of this problem, the Board in its most recent decision requested that a study be undertaken in an effort to ascertain the appropriate components of the capital to be dedicated to utility financing. In response to that request, Union commissioned Mr. R. W. Scott to undertake a study in which he would segregate, by an allocation process, capital into utility and non-utility. In addition the Applicant called other witnesses who addressed the problem of capital structure. Mr. Parcell, on behalf of Board staff, also provided evidence on appropriate components of capital.

The Hypothetical Capital Structure

Mr. Scott, after receiving instructions from Board staff and the Applicant, prepared and filed a study in which he attempted to ascertain the source of capital funds and to allocate these funds between utility and non-utility. He cautioned, however, that the study contains "a potential for providing mis-leading indications of the basis upon which a judgment respecting a fair return may be developed". Nevertheless, the Board found the conclusions of the study with respect to capital components to be useful in providing a basis for comparison and for assessing the reasonableness of the Applicant's proposals.

The Applicant did not accept the findings of Mr. Scott, or that attempting to track funds was practical. Instead the Applicant proposed a redefined capital structure as being more appropriate for its utility operations. Dr. Sherwin testified that the synthesizing of a hypothetical capital structure should begin with the equity component, which he claimed should be at least 30 percent for Union. He proposed that the capital structure should also contain all of the outstanding long-term debt, because such debt had been incurred primarily for the capital intensive utility operation. For similar reasons he allocated all of the preferred stock to utility capital. The total of the notionally assigned capital together with deferred taxes was less than the claimed rate base and Dr. Sherwin submitted that the difference would be made up of short-term borrowing which he designated as unfunded debt.

Mr. Parcell considered that an equity component in the range of 25 to 30 percent would be reasonable in view of the historical and current level of equity financing. Mr. Rogers argued in favour of an equity component of 27.5 percent.

Mr. Scott's analysis indicated that the equity component of the regulated utility, after netting out deferred taxes, should be 25.55 percent, 29.04 percent and 29.65 percent for the fiscal years ending March 31 in 1980, 1981, and 1982 respectively.

Counsel for IGUA pointed out that recalculating the capital structures approved in recent Board decisions to include unfunded debt produced equity ratios of 24 to 26 percent. He recommended a 25.0 percent equity component, pointing out that Union's non-jurisdictional activities, were they standing alone, would require a substantial common equity thereby reducing the equity capital assignable to the utility operation.

Mr. Ryder derived a mid-year average from Mr. Scott's analysis and on this basis considered 29.36 percent an appropriate equity ratio.

The proposed assignment of all of the long-term debt to the hypothetical capital structure was regarded as an entitlement of the gas utility operation by Dr. Sherwin. Since this capital is of lower than average cost it represents a benefit that would flow through to utility customers.

Mr. Thompson concluded that the long-term debt component should represent 48.9 percent of the capital structure, whereas Mr. Rogers and Mr. Ryder recommended 47.0 percent and 46.1 percent respectively. The Applicant's request was for a 48.6 percent long-term debt component.

The findings of Mr. Scott, incorporating as it does some allocation of capital to non-utility, indicates lower long-term debt and preferred stock capital components than those proposed by the Applicant.

The preferred stock component of capital recommended by the participants ranged from IGUA's 14.4 percent to Board counsel's 12.0 percent. The recommendations with respect to unfunded debt range from 7.1 percent proposed by the Applicant to 13.5 percent recommended by Board counsel.

The Board has concluded that the consolidated capital structure, supporting as it does substantial non-utility assets, is inappropriate for the utility portion of the operation and agrees that a hypothetical capital structure is a reasonable alternative." All participants in the proceeding, except for the Applicant, in developing a hypothetical capital structure seem to have invested some confidence in the Scott study in that the components of capital recommended by each have been predicated substantially on that study. The Board is satisfied from Mr. Scott's evidence that his tracing or allocation process can not be relied on completely, but it does provide rough directional indicators.

The Board has considered each of the components of capital separately in arriving at the capital structure it considers appropriate for the utility operations of Union.

In reaching its conclusion with respect to the appropriate equity component, the Board has considered the recommendations of the intervenors and Board counsel and notes that they fall within a range of 25 percent to 29.36 percent. Union relied on Dr. Sherwin's recommendation of 30 percent. The Board has also noted that by recasting its three most recent decisions to show equity as a percentage of rate base the equity ratios become 25, 26 and 24 percent. The ratios have apparently not caused investors undue concern.

The Board has also noted the relationship of the consolidated capitalization to that requested by Union and has considered the relative risks associated with the non-utility versus the utility operations.

On the basis of the foregoing the Board has concluded that the equity component can be lower than that recommended by Dr. Sherwin without affecting investor confidence, but that a level towards the upper end of the range of the other recommendations has been justified. The Board will, therefore, approve an equity component of 28.0 percent for purposes of this proceeding.

The Board notes that the level of equity, and in fact the levels of all components of the captial structure, are subject to change according to the circumstances prevailing at the time of future proceedings.

In its final submission the Applicant proposed that long-term debt be set at $316,200,000 in the capital structure, this being the average of the expected long-term debt outstanding at fiscal years ending in 1981 and 1982 less unamortized long-term debt discount and expenses. As noted earlier, the Board considers that Mr. Scott's study has been helpful, but in view of the author's caution that it should not be relied upon and since others would assign relatively small amounts to non-utility operations, it appears reasonable to assign all long-term debt to utility operations. The Board would stress, however, that the assignment or allocation of future issues of debt should be based on the circumstances at that time and the extent to which Union continues expansion into non-utility activities.

The Board accepts the Applicant's determination of long-term debt and will include $316,200,000 for long-term debt in the capital structure.

The Applicant also included the value of all preference shares as part of utility capital. The amount included for preference shares was $93,108,000.

Some intervenors would assign a portion of these funds to non-utility operations but, for the same reasons given for long-term debt, the Board has concluded that it is reasonable to assign the outstanding preference shares to utility operations. Treatment of future issues should be based on an evaluation of circumstances existing at that time including the expansion of Union's non-utility activities.

The principle of including an "unfunded debt" component in capital structure has been endorsed by the Board for the Consumers' Gas Company Limited. Furthermore, the proposed technique of employing an unfunded debt component to equate total capital and rate base was not seriously questioned by any of the intervenors. Board counsel, however, preferred not to use the term unfunded debt, or to use any of the components of the capital structure as a "balancing" item with rate base. Instead he proposed that appropriate percentages be developed for each component including short-term debt, with the percentages being applied to net rate base to determine the value of each component of capital.

Mr. Rogers was concerned that the levels of short-term debt would be grossly understated and he argued that in fiscal 1982 short-term debt for Union could be in excess of $100 million. He noted that the Board, in

E.B.R.O. 371-1 had excluded short-term debt from the capital structure but that it had assumed $83 million of such debt for income tax purposes. He did not advise the continuation of that treatment for this proceeding. He advocated that short-term debt should be 13.5 percent and, when applied to the rate base found reasonable by the Board, amounts to $87 million.

The Board is cognizant of the change in philosophy on the part of the utilities under its jurisdiction with respect to short-term debt. In earlier proceedings the utilities maintained that short-term debt should be excluded from capital structure for several reasons. At that time the cost of short-term debt was lower than the overall or authorized cost of capital and, under those circumstances, it was to the shareholders' advantage that the difference between total capital and rate base be valued at the authorized rate of return rather than as short-term debt. Since the cost of short-term debt is now considerably above the allowed rate of return it is in the shareholders' interest to claim the higher cost on the difference between capital and rate base.

The Board considers that Mr. Rogers' approach produces a result which may be considered reasonable under circumstances where long-term debt and preference share value can not be determined. In this case, however, since the Board has already found reasonable levels for equity, long-term debt and preference shares, it would be appropriate to adopt the Applicant's method and allow unfunded debt as the balancing item between capital and rate base. The hypothetical capital structure will, therefore, include unfunded debt as a balancing item and total capital will equate with rate base; i.e. total rate base reduced by the amount of accumulated deferred taxes. Accordingly, the unfunded debt component will amount to $56,443,000 or 8.7 percent of rate base.

The components of capital making up a hypothetical capital structure acceptable to the Board are summarized as follows:

Rate Base	Amount	Ratio
	millions of $	%
Total	751.477	
Deferred taxes	104.600	
Rate base	646.877	
Capital Components		
Equity	181.126	28.0
Long-term debt	316.200	48.9
Preferred Stock	93.108	14.4
Unfunded debt	56.443	8.7
Total	646.877	100.0

Deferred Tax Treatment

The practice of allowing a return on accumulated deferred taxes was debated and, before any resolution can be made with respect to rate of return on rate base, it must be decided if the current practice, or an alternative method, is appropriate.

The present procedure allows the authorized rate of return to be applied to total rate base, including those assets notionally financed by deferred income taxes. However, interest income is deemed to have been received by the company, which is calculated by applying the cost of imbedded debt to the balance in the deferred income tax account. The effect of this is that the actual return on deferred taxes is substantially reduced and it effectively amounts to a return on deferred taxes equal to the difference between the authorized return and the cost of imbedded debt.

Mr. Kellock defended the present treatment largely on the basis that there has been a consistent jurisprudence with respect to deferred income tax for 19 years; that assets financed by deferred taxes are at risk and therefore merit a return; that other major regulated distributors in Ontario receive a return and that the method of providing an allowance for return on deferred taxes is not so excessively complicated as to confound analysts and investors. The Applicant's witnesses and Mr. Scott considered the assets supported by capital accumulated through deferred taxes as being at risk and that therefore a return should be awarded on deferred taxes.

Mr. Thompson, as in previous hearings, argued against the awarding of a return on deferred taxes. He cited several changes in circumstances and recommended that no allowance be made for return on deferred taxes; that the rate base should be reduced by an amount equivalent to the accumulated deferred taxes and that any such award to shareholders should be made in the return awarded to the equity component of capital.

Board counsel appealed for a reconsideration of the current practices with respect to deferred taxes with recommendations similar to those of IGUA. He recommended the proposals put forth by Mr. Parcell, which would reduce rate base by the amount of accumulated deferred taxes and provide no return directly. He suggested that if such funds are considered to be at risk, then a provision may be made in the equity return and thereby eliminate the need for drawing comparisons between the nominal and the effective returns on equity.

Mr. Ryder also endorsed the proposals put forth by Mr. Parcell.

The Board realizes that during several hearings there has been a good deal of contention associated with the current procedures with respect to deferred taxes, a process approved by this Board in 1962. The Board does not consider Mr. Kellock's argument with respect to the longevity of the jurisprudence to be particularly meritorious. The Board is of the opinion that prevailing circumstances are quite different from the circumstances of the early 1960's in that it is conceivable that deferred tax allowances are now permanent in nature and their significance will continue to increase with inflation. Furthermore, other tax changes in the interim, relating to interest and dividend income in the hands of investors, may have distorted the basis upon which the award was originally derived.

The Board recognizes that as a result of this current procedure its decisions must be analyzed and calculations made to determine the effective return as compared to the actual return awarded. It considers this to be a rather complex method of achieving a return on the accumulated deferred income taxes and it also considers that this could well be a unique opportunity to modify the procedure coincident with significant modifications in the capital structure. The Board believes that the treatment can be simplified with minimum impact on customers or shareholders.

For purposes of this proceeding, therefore, the capital structure will be as shown on Page 59. Deferred income taxes will not be included in the capital structure used to determine the cost of capital, and no direct return will be allowed on these funds.

Cost of Capital

The Applicant submitted a determination of the cost of long-term debt and preference stock and, since the Board is accepting the total capital represented by these securities as components of the capital structure, then the associated costs of each, as calculated by Union are also accepted. The costs were found to be 10.62 percent for long-term debt and 7.84 percent for outstanding preference share capital.

Unfunded debt is conceptually comprised of short-term borrowing. Witnesses addressing the economic environment held out very little hope of any change from the current high interest rates. Mr. Kierans in an addendum to his evidence indicated that McLeod Young Weir now forecast that interest rates are expected to decline slightly in mid-1981, but then continue to increase into 1982. Mr. Kierans testified that ". . . it is highly unlikely that the cost of Union's short-term borrowing will average less than 15.50 percent over the test period;" He also said that ". . . it is highly unlikely that the Union shall be able to raise long-term debt capital at a nominal rate less than 15.25 percent in the test period." Dr. Sherwin in addressing the cost of the notional unfunded debt said ". . . the residual should be treated as being financed by new debt, at whatever is the prospective cost of long-term debt."

The Applicant, Board counsel and Mr. Thompson all recommended that the Board accept a cost factor of

15.0 percent in determining the cost of the notional unfunded debt component.

The Board realizes that short-term interest rates are volatile at the present time and may remain so in the short-run and that the expectations of Mr. Kierans with respect to short-term rates may well be fulfilled. However, the Board would regard it as somewhat perverse, if a situation existed where an allowance for unfunded debt exceeded the return on equity. In view of the currently prevailing cost of short-term borrowing and, concious of the degree of unanimity between counsel with respect to the allowance for costs on unfunded debt, the Board will accept a cost factor of 15.0 percent on the unfunded debt component of capital.

Return on Equity

Dr. Sherwin and Mr. Kierans as witnesses for the Applicant, testified as to return on equity, as did Mr. Parcell as a witness for Board staff.

Mr. Kierans determined what he called a comparable earnings measure after examining what he said was a sample of unregulated companies bearing similar composite risk characteristics to Union. He recommended a return of 15.75 percent on common equity. A second test by Mr. Kierans, which he referred to as investors required return measure, led him to the same conclusion regarding an appropriate return on equity.

Dr. Sherwin prepared a comparable earnings test and, in an effort to obtain sample companies comparable to Union, a suggestion previously made by the Board, selected 14 high grade and 14 medium grade Canadian industrial companies. The median return on equity for the entire group of 28 was found to be 15.8 percent for the three year period 1977-1979. This, together with a comparable earnings test done on larger samples drawn from Canadian and American statistics, brought Dr. Sherwin to the conclusion that a reasonable equity return based on a 30 percent equity ratio was in the range of 15.5 to 16.0 percent.

Dr. Sherwin also prepared a capital attraction test, a test in which he professes to have little faith, for purposes of determining a reasonable return on equity under the prevailing circumstances. This test indicated a reasonable return to be 15.6 percent which is at the lower end of his recommended range. He concluded that the capital attraction test nevertheless supported the comparable earnings test and he recommended a return of 15.75 percent as being reasonable. The Applicant adopted Dr. Sherwin's recommendation as being an appropriate return on equity to be used in the determination of an overall rate of return on rate base.

Mr. Parcell also utilized the comparable earnings approach and the discounted cash flow method of deriving a reasonable return on equity. Working with a larger sample and from statistics generally covering longer periods, he recommended an equity return in the range of 14.0 to 14.5 percent as a result of his comparable earnings analysis. His discounted cash flow analysis resulted in an indicated equity return requirement of 14.3 percent.

Relying on Mr. Parcell's evidence, Mr. Rogers argued that Union's financial and business risk had not increased since the last case. He also argued that the inclusion of short-term debt in the capital structure reduced the need for an increase in return on equity and that a fair and appropriate return on equity is 14.0 to 14.5 percent.

Mr. Kawalec submitted that the rate of return on equity should not exceed the 14.5 percent determined by Mr. Parcell. He said, ". . . an excessive rate of return, such as proposed by Dr. Sherwin, would trigger an over-stimulation of the growth of the utility by encouraging the utility to take greater risks in expanding."

IGUA recommended a return of 14.5 percent on equity whereas Mr. Ryder recommended 14.25 percent. Mr. Ryder also recommended that providing there was no other award based on deferred taxes, then the return on equity should be set at 14.5 percent. All other recommendations with respect to return on equity are without regard to a return on deferred taxes. Mr. Ryder therefore is the only intervenor who has attempted to quantify return on deferred taxes in terms of return on equity and he places this at one quarter of one percent.

The Board notes again the somewhat bewildering array of results that arise out of the application of similar analytical techniques to common data resources. The Board in arriving at a decision with respect to return on equity has attempted to incorporate all of the relevant factors and has subjectively weighted these in coming to its conclusion.

The Board begins with the realization that the adoption of a forward test year and a hypothetical capital structure, with an associated unfunded debt component and a reasonable cost allowance attached thereto, may be regarded as reducing financial risk. It notes that there has been no deterioration of business risk but more probably an improvement.

The Board also realizes that equity capital is in competition with funded debt, that interest rates are unusually high and they may go higher, therefore, the usual risk premium provided for equity may be unrealistic.

The Board agrees with Mr. Parcell that Union's exposure to risk is currently less than at the time of the last proceeding, however, in view of the current economic conditions and the continuing high interest rates, his recommended range of 14.0 to 14.5 percent return is regarded as too low. On the other hand, the Board is of the opinion that Dr. Sherwin's recommendation of 15.75 percent return, based upon a selective sample, is too high.

The Board; after considering all of the above; the evidence and the recommendations of all participants; the elimination of a direct return on deferred taxes, and externalities exerting pressures on the the Applicant, the Board concludes that a 15.1 percent return on equity is appropriate.

The Overall Cost of Capital

The following table summarizes the findings of the Board with respect to rate base, components of capital, cost of capital and return on rate base.

	Amount millions of $	Capital Contributed %	Cost Rate %	Return Component %
Rate Base				
Total	751.477			
Deferred taxes	(104.600)			
Rate Base	646.877			
Capital				
Equity	181.126	28.0	15.10	4.23
Long-term debt	316.200	48.9	10.62	5.19
Preference stock	93.108	14.4	7.84	1.13
Unfunded debt	56.443	8.7	15.00	1.31
Total	646.877	100.0		11.86

The Board concludes that a reasonable rate of return on rate base is 11.86 percent.

TAB 5

REASONS FOR DECISION

in the matter of a rate application
under the Ontario Energy Board Act by

UNION GAS LIMITED

E.B.R.O. 382

April 8, 1982

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B. Calculation of Income Tax
C. Utility Revenue, Cost of Service, Deficiency
D. Adjustment to Capital Cost Allowance
E. Adjustment to Accumulated Deferred Taxes

and so are readily available, directs Union to file them with the Board Secretary each quarter as soon as they become available.

Income Taxes

The Applicant during the hearing revised the basis on which it imputed income tax to the utility operations to reflect recent changes to income tax legislation proposed but not yet enacted.

Board counsel, noting that the Board in its decision in E.B.R.O. 381 disallowed inclusion of the unenacted Federal budget provisions in the income tax calculation of Consumers', submitted that, because of the uncertainties presently surrounding the implementation of the budget provision, the income tax calculation in this case should be treated in the same manner.

Union's counsel pointed out that the Board's decision in E.B.R.O. 381 was for different reasons not applicable to this case and submitted that Union, like other businesses and individuals, is required to conduct its affairs as though the proposals were enacted into law and that, therefore, the Board should accept as law the proposals submitted to Parliament by the majority Federal Government, notwithstanding that they have not yet been enacted.

The Board is of the opinion that in the particular circumstances of this case rates should be set on an expectation of legislative action and accepts Union's adjustment to its income tax calculation.

Mr. Thompson was concerned about the allocation of deferred income taxes between utility and non-utility. He observed:

> "It appears to IGUA that virtually all of the income of Union Gas Limited subject to tax, is income generated by the utility business. It is true that many of the deductions from taxable income which contribute to the large component of deferred income taxes for the corporation may relate to Union's involvement in the non-utility business. However without the income from the utility business, the level of deferred income taxes would be dramatically reduced.
>
> "It is clear from the evidence of Mr. Kierans that Union relies on the deferred taxes to fund its investment in these non-utility ventures. Whether the allocation of the deferred taxes proposed by Union achieves a fair sharing of those benefits is an issue that is not easy to resolve. . . .
>
> "IGUA believes that support could be found for a recommendation that a greater sum of deferred taxes . . . . ought to be allocated to utility activities with the result that Union's utility rate base net of deferred taxes would reduce."

Notwithstanding these observations, Mr. Thompson, for the purposes of this proceeding, accepted Union's approach to the allocation of income taxes.

The Board notes that reallocation of deferred income taxes would also affect the allocation of current income taxes. The Board sees sufficient merit in Mr. Thompson's proposal to encourage its further investigation, and directs Union to address this issue in the fiscal 1984 test year hearing.

Costing of Petrosar Gas

Union proposed that the portion of the cost of Petrosar gas to be charged through inventory into cost of service, should be valued equivalent to the cost of gas from all other sources after adjustment for the heat content of the Petrosar gas, or, in other words, the equivalent cost per unit of heat content.

In view, however, of the Board's decision in E.B.R.O. 377-1 that the costing of Petrosar gas through inventory into cost of service should be on the same basis as the costing of gas on which the rates were set in E.B.R.O. 380 (namely, the cost of gas from all other sources per unit of volume without adjustment for the lower heat content of the Petrosar gas) and the Board's concerns expressed in this hearing as to the complications attending the adjustment for heat content, Mr. Freeland increased the cost of service by $216,000 to reflect the higher cost of Petrosar gas on a volumetric basis rather than on a heat content basis.

He subsequently commented in respect to the choice of costing method implied by such adjustment:

D. REASONABLE RETURN

Introduction

This section is dedicated to the determination of a reasonable rate of return. In making that determination the Board realizes that there are a number of circumstances which may be peculiar to this proceeding, and these are briefly summarized in this introduction.

This application is being processed during a time and within an economic environment that may be euphemistically described as unusual. Inflation is high and persistent, interest rates are high and erratic, and financial markets are reacting in a manner that makes long-term comparisons difficult.

Mr. Kierans has reported that long-term bond markets are closed to Union. This would seem to translate generally into an observation that there is an acute reluctance on the part of lenders to commit capital for 15 or 20 years and long-term bonds are to be regarded as a 5 to 8-year commitment. It might also be reasonably observed that there are considerable inconsistencies in the prognostications of the several expert witnesses as to what might happen in the short-run vis-a-vis the cost of financing. This should not be regarded as a pejorative statement but rather, should be regarded as a natural consequence when the inter-relationships of economic indicators are inconsistent with historical relationships, to wit: inflation and interest rates that are very high whereas GNP is very low and unemployment is very high.

Given the economic circumstances expected to prevail during the Applicant's test year, the Board must view with some skepticism the ambitious utility and non-utility capital programs planned by Union, particularly when the utility portion of the plan appears to be predicated on a perceived obligation by Union to extend its services - an obligation that Mr. Macaulay refutes.

Notwithstanding the fact that the Board has been receptive to a stand-alone concept and the hypothetical capital structure for purposes of determining a return on utility rate base, Union must compete as a consolidated entity in the money markets. The non-utility interests of the Applicant are undeniably and inextricably interwoven with the utility operations. The investor must consider and evaluate all the component parts and no amount of conceptualizing and hypothesizing will insulate the Applicant and its utility operations from this reality.

The utilization of the fully prospective test year is expected to eliminate regulatory lag. Some witnesses seem to regard the use of a prospective test year as a virtual panacea insofar as regulatory lag and achievement of an authorized rate of return are concerned. The Board feels obliged to point out that the process, being of a quasi-judicial nature, does not lend itself readily to rigid time constraints. Furthermore, it seems to the Board that the various prognostications of significant elements of the rate of return equation, sensitive as it is to changes and errors in its elements, could conceivably, and just as easily, be detrimental rather than advantageous to the Applicant.

The Board has also been presented with concepts of ever increasing complexity, all of which are intended to assist in the determination of the cost of capital. Indeed, Board counsel has recommended an accounting procedure which would, by retroactive adjustment, insulate the Applicant from fluctuations in interest rates (a manoeuvre apparently intended to protect against widely fluctuating and presumably unpredictable interest rates).

For all of these reasons the economic and regulatory environment is perceived to be rather unusual. It is, however, the ambiance within which this Board must derive, in the final analysis, just and reasonable rates that will enable the Applicant to maintain itself in what is commonly regarded as a state of financial integrity.

Stand-Alone Concept and The Hypothetical Capital Structure

The concept of a hypothetical capital structure was presented to the Board by Dr. Sherwin during the previous hearing, E.B.R.O. 380.

As in that decision, the hypothetical capital structure proposed by Union excludes accumulated deferred income taxes as a source of capital and the accumulated deferred income taxes allocated to the utility are deducted from the rate base. As an alternative, accumulated deferred income taxes were previously taken to be a component of capital with an attendant return thereon, offset by an imputed income. In the E.B.R.O. 380 decision, the Board chose instead to deduct accumulated deferred income taxes from rate base. Conceptually, it is this net rate base which must be supported by the hypothetical capital structure devoid of accumulated deferred income taxes.

The Board is of the opinion that circumstances are sufficiently similar to those prevailing during the E.B.R.O. 380 hearing, that the net rate base concept can be adopted for this proceeding. The Board therefore approves of the deduction of accumulated deferred income taxes from rate base and their elimination from the hypothetical capital structure as proposed by Union.

The hypothetical utility capital structure is comprised of long-term debt, preferred shares, common equity and unfunded debt. Union proposed, as in the previous hearing that all of Union's long-term debt and preferred shares should be assigned to the utility. Since there is to be no change from what was done in the previous case, the Board accepts the proposal. There remains to be determined the portions of Union's common equity and unfunded debt to be included in the total capital to fund the net rate base.

The stand-alone principle was examined by several of the witnesses. The capital remaining to support notionally the unregulated activities of the Applicant was of particular concern. Dr. Sherwin and Mr. Kierans took the position that the Board need not examine the reasonableness of the capital structure supporting the non-utility operations and that only the reasonableness of the hypothetical capital structure of the utility was of any importance.

Mr. Parcell and others were not in agreement with the position taken by the witnesses for the Applicant.

Mr. Ryder urged the Board to examine the reasonableness of the capital structure remaining to support non-utility operations. Mr. Thompson and Mr. Macaulay drew the Board's attention to the erosion of the value of non-utility assets. They argued that a 50/50, debt/equity ratio for the non-utility, would result if the utility equity was deemed to be 32 percent, and that would be unreasonable for the non-utility activities, which should require a higher equity component, if standing alone. Because of this, it was argued that, even with the contemplated $50 million equity issue early in 1982, the raising of the deemed equity component of the hypothetical capital structure of the utility above the 28 percent level, approved in the last Union decision, could not be justified.

Mr. Macaulay also argued that cash flow from non-utility investments is inadequate to support the large debt notionally assigned to those operations and that consequently utility operations are currently subsidizing the non-utility operations. In addition, he observed that the non-utility segment, because of some financial rearrangements, had "become in essence a stock portfolio requiring significant equity support".

Mr. Thompson, Mr. Ryder and Mr. Macaulay urged the Board to reject the Applicant's proposal of a 32 percent equity component in the hypothetical capital structure and to retain the 28 percent equity as determined in the previous rate proceeding.

Dr. Sherwin and Mr. Kierans submitted that a 32 percent equity component for the hypothetical capital structure of the utility was not only reasonable but required in order that Union might be able to finance its capital expenditure program. It was their contention that in accordance with the stand-alone concept, the capital components of the utility, maintained in a reasonable balance, were of primary importance and that the capital components for non-utility operations need only fall within a very broad and loosely defined range of reasonableness.

The Board is of the opinion that any investor in arriving at an investment decision, in a consolidated company such as Union, must assess the earnings potential and hence the value, of all the segments of the consolidated operation. Some participants were of the opinion that the non-utility activities should for all intents and purposes, be able to stand alone with a notional capital structure appropriate to such ventures.

In the opinion of the Board there is considerable evidence to indicate the need, in dividing the consolidated operation into utility and non-utility segments, to test in some manner such division by assessing the reasonableness of components of capital left to support the non-utility activities. The Board thinks there is insufficient evidence in this proceeding to support conclusively such division but the Board is satisfied that, even though its statutory mandate is to the utility operation only, it cannot completely abandon reality by regarding only the hypothetical utility capital structure while disregarding the complementary non-utility portion.

The Applicant has made significant investment commitments in its non-utility operations which, in the opinion of the Board, if standing alone, would have to be, to a large extent, financed by equity. The Board is of the opinion that changes in circumstances have not been such as to justify any more than a slight increase in the ratio of the utility's equity to its total capital.

The Board is reluctant to accept the principle of the above concept for the utility operations as the utility operations do not appear to be independent of the non-utility activities. The Board cannot ignore the very considerable demand for equity capital arising from the non-utility ventures, nor the unrealistically low residual assignment of unfunded debt to the utility proposed by Union in comparison to the utility's actual use of unfunded debt.

In these circumstances the Board has concluded that the appropriate allocation of the balance of the net rate base funding is 29.0 percent equity and 5.05 percent unfunded debt.

The components of capital making up the hypothetical capital structure acceptable to the Board are summarized as follows:

Rate Base	Amount (millions of $)	Ratio (Percent)
Total Rate Base	825.994	
Deferred Income Taxes	(112.644)	
Net Rate Base	713.350	
Capital Components		
Equity	206.871	29.00
Long-term Debt	380.847	53.39
Preferred Stock	89.568	12.56
Unfunded Debt	36.064	5.05
Total Capital	713.350	100.00

Cost Rates of Capital

Long-Term Debt

The Applicant has claimed that the cost rate for the long-term debt component of the capital structure, based on the average of the debt expected to be outstanding at the beginning and end of the test year, will be 11.85 percent. This was generally accepted by participants, but Mr. Thompson argued that the capital requirements of the non-utility activities and the lack of cash flow therefrom may have increased the need for high cost capital. He said in argument that:

> "IGUA proposes that the Board accept the cost of long-term debt proposed by Union but submits that the Board should bear in mind the probable impact of Union's non-utility activities on the magnitude of this cost rate when it considers the appropriate return to be allowed on the common equity component of utility capitalization."

The Board accepts 11.85 percent as the cost rate of the long-term debt in the test year. A tabulation submitted by the Applicant indicates that the average long-term debt capital outstanding during fiscal 1983 will be $380,847,000.

Preference Shares

A tabulation of outstanding preference shares was also submitted showing the expected average cost during the 1983 fiscal year. There are no new issues planned but there are some redemptions expected to be made. The gain on redemptions has been considered in arriving at an average cost rate of 7.83 percent during the test year. The average amount forecast to be outstanding during that year was $89,568,000.

The cost rate of preference share capital as submitted by the Applicant was acceptable to participants. The Board accepts the 7.83 percent rate of the preference share capital in the test year.

Unfunded Debt

The unfunded debt component of the hypothetical capital structure is the capital required to balance the total capital with net rate base. This unfunded debt is assumed to be at a cost approximating the bank rate expected to prevail during the test year for short-term borrowings.

Union has applied for a cost rate of 18.0 percent to be applied to unfunded debt even though it was Mr. Kierans' expectation that interest rates would exceed 20 percent in the first quarter of 1983.

Mr. McCracken, called by Board counsel, forecasted the prime rate to fall within a range of 14.5 to 16.9 percent during the test year. Mr. Macaulay said that since "Union borrows at one-half percent below prime", a rate of 16.5 percent for short-term borrowings should be set by the Board.

Mr. Thompson pointed out that this Board had recently approved a short-term rate of 18.25 percent in establishing a cost of unfunded debt for Consumers' Gas and that the Applicant would be treated unfairly if it were denied the 18 percent cost provision applied for.

The level of short-term interest rates during the test year is difficult to forecast as witnessed by the range of estimates submitted in evidence. After consideration of the various recommendations of the participants and their general expectation of an upward trend in interest rates the Board concludes that the appropriate cost rate of unfunded debt for the test year is 18.0 percent.

Interest Variation Account

Mr. Kierans gave evidence that "the previous application and hearing took place within unstable financial market conditions similar to those which prevail although conditions today are even more volatile and oppressive."

Because of the perceived volatile and chaotic money market, Mr. Macaulay recommended in argument that an interest variation account should be established "for this Company" which would retroactively adjust interest costs should they deviate from those provided for in the cost of service and contained in the composite rate of return. Mr. Macaulay argued that a fully prospective test year required the forecasting of interest rates and since these are, in the prevailing circumstances, difficult to predict, then it would be appropriate to set up an interest variation account, not unlike a heat content account that might be used to offset variations in calorific value of the gas supply.

Mr. Ryder had reservations about Mr. Macaulay's proposal and suggested that the alternative is for the Board to set the short-term interest rate and "let Union take the good years with the bad."

Mr. Kellock, on behalf of Union, was prepared to accept the interest variation account proposal providing, however, that it "is seen as a temporary measure and should not be considered to have affected a reduction in risk or to have any impact on the appropriate return on common equity". Mr. Macaulay's conceptualization of a variation account appears to include an assumption of lower risk and consequently a lower return on equity which obviously is basically incompatible with Mr. Kellock's conditional acceptance.

The Board cannot find sufficient evidence to support or justify an interest variation account or to explain how it would work. The concept is more thoroughly developed in argument. The Board would have to regard the proposal as providing a reduction in financial risk, which in turn would warrant consideration in arriving at a reasonable return on equity. Under the circumstances the Board rejects the proposal put forth by its counsel.

Return on Equity

The Board had the benefit of evidence from three expert witnesses on the cost of capital and particularly the cost of equity capital. Dr. Sherwin and Mr. Kierans testified on behalf of the Applicant, and Board counsel presented Mr. Parcell. Board counsel also adduced evidence on economic forecasts through Mr. McCracken.

Dr. Cannon and Mr. Tattersall were called by Board counsel and gave evidence on techniques related to estimating cost of capital and on the investors' perspective.

Dr. Sherwin and Mr. Kierans recommended 17.0 percent return on an equity ratio of 32 percent, whereas Mr. Parcell recommended 15.1 percent on an equity ratio of 28 percent. Each provided a rationale for his recommendation based on statistical analysis.

Dr. Sherwin's return on equity evidence indicated that 32 high- and medium-grade industrials during the five-year period 1977-81 provided a return of 17.8 percent. Sixteen investment grade Canadian industrials selected on the basis of their stability of return showed an average return on average equity of 16.5 percent during the same period. He also submitted that long-term Canadian Government bonds yield 13.5 to 14.5 percent and that a risk premium conservatively set at 3.0 percent would indicate a return requirement of 16.5 to 17.5 percent. A discounted cash flow analysis performed by Dr. Sherwin verified his other findings and led him to conclude that a 17.0 percent return on equity was appropriate.

Mr. Kierans, from a sample of 18 unregulated companies, found an average return of 16.95 percent on book equity over the five-year period ending in 1980, whereas over the last three years the indicated return was 17.4 percent. He submitted that:

> "Book equity returns for unregulated companies, . . . should be higher in 1982 than in 1980 or 1981 and should, by some point in 1983, have re-established the levels realized in the late seventies."

Mr. Parcell was skeptical of the comparable earnings test in that companies of comparable risk are most difficult to identify. When asked by Mr. Macaulay to elaborate on his pre-filed evidence, he said that:

> ". . . risks play a large role in a comparable earnings analysis. I maintain that you cannot find companies, especially unregulated companies of identical or even similar risk to Union Gas. In the absence of this, what you must do is assess the relative risk levels of Union in the unregulated firms and after determining the relative risk levels, then make an adjustment to the return on equity earned by these firms to account for the lower risk which Union has and, as a result, Union should be afforded a lower return on equity than these unregulated utilities."

Mr. Parcell's submission in pre-filed evidence was to the effect that, because of a lower perceived business risk, the improved gas supply, the low earning variability, the resolution of the Petrosar situation, the fully prospective test year, and since gas costs are the dominant cost and are passed on immediately, there is reduced business and financial risk. He recommended the continuation of a 15.1 percent return and the maintenance of a 28.0 percent equity component in the hypothetical capital structure.

Dr. Cannon provided the Board with new concepts regarding the derivation of the cost of equity capital. He submitted that the return on preferred share capital serves as a guide in determining an appropriate return on equity. He considered the risk associated with preference shares to be equal to the risk associated with equity capital and therefore the return on equity and preferreds should be approximately equal.

Dr. Cannon also submitted an alternative methodology for assessing the appropriateness of return on equity. His "Comparable Investment Risk - Comparable Investment Return" method involves selection of a sample, the population of which must contain many similar characteristics. The sampling technique is very selective and makes obtaining a sample of significant size exceedingly difficult. He suggested that another approach would be to analyze the investors holding the various securities in Union. A motion to have the Applicant supply such detail was denied by the Board.

Mr. Tattersall provided the Board with some insights into money markets generally. He pointed out that the margin between bond yields and equity yields has been reducing. He said:

> "There are, however, a number of reasons why a narrower differential between stock and bond returns can be expected in the future. A combination of these factors may explain why Canadian investors appear to be willing to accept a prospective total return of not much more than 16 percent when bonds are available on that same yield basis."

Mr. Tattersall listed the factors which tend to culminate in this apparent anomaly. He submitted that bond yields are at an historically high level; long-term bonds are considered risky and, investors therefore demand a premium. He also noted that tax advantages to stockholders tend to make equity and preference shares relatively more attractive. He concluded that "the return on equity cannot be persistently below the prevailing yield of 'A' corporate bonds if the stock is to trade at or above book value."

The Board found Mr. Tattersall's evidence of some value in understanding the aberrations of the money markets, although this witness did not make any specific recommendation with respect to the rate of return.

Mr. Ryder was of the opinion that there were no significant changes since the previous hearing that would justify a change in the rate of return on equity.

Mr. Thompson in argument recommended a return on equity of 15.6 percent -- an increase of 0.5 percent. He pointed out, however, that the Board had recently approved a return on equity of 16.25 percent for another gas utility and that award cannot now be ignored when dealing with this Applicant. However, he said that:

> "In IGUA's view the award to Consumers' was unduly generous. IGUA does not and cannot recommend or support a return of 16.25 percent for Union."

The desirability of maintaining a market-to-book ratio greater than one, on both a consolidated and a stand-alone basis, was discussed by several witnesses. For this to be meaningful it is necessary to split both market and book values of Union's shares into "utility" and "non-utility". The Board is of the opinion that such an analysis contains an inordinate number of assumptions and, at least at this stage of its development, the Board hesitates to use market-to-book ratios as a guide or target and therefore gives very little weight to such evidence.

In arriving at its conclusions the Board begins with the realization that this Application must be resolved during a period of unstable economic inter-relationships. In the Board's view, circumstances are unusual and are changing rapidly which requires not only a high degree of currency of data but challenges the soundness of conclusions drawn from analytical processes applied to data already several years old. Furthermore, as Mr. Tattersall points out, relationships between the variety of stocks and bonds have changed, and presumably will continue to change.

Mr. Macaulay recommended a range of 15.0-16.0 percent return on equity depending upon whether or not the Board accepts his proposed interest variation account.

Mr. Ryder in his recommendation relied to a considerable degree on the Decision, in E.B.R.O. 380 and argued that the Applicant had not made a case for increasing the 15.1 percent return on equity found in that proceeding.

There are a number of imponderables involved when attempting to utilize a fully prospective test year. The Board is of the opinion that in arriving at a proposed return on equity the Applicant has under-assessed the beneficial impact of several factors: the resolution to the Petrosar situation, totally adequate gas supply and the fully prospective test year. The weighting of all of these factors leads the Board to conclude that a 17.0 percent return on equity, as requested by the Applicant, is too much under the circumstances.

After considering all of the above the Board finds 16.75 percent return on equity to be appropriate for the test year.

The Overall Cost of Capital

The following table summarizes the findings of the Board with respect to rate base, components of capital, cost of capital and return on rate base.

	Amount ($000's)
Rate Base	
Total Rate Base	825,994
Deferred Income Taxes	(112,644)
Net Rate Base	713,350

Capital		Capital Contributed %	Cost Rate %	Return Component %
Equity	206,871	29.00	16.75	4.86
Long-Term Debt	380,847	53.39	11.85	6.33
Preference Stock	89,568	12.56	7.83	.98
Unfunded Debt	36,064	5.05	18.00	.91
Total Capital	713,350	100.00		13.08

The Board concludes that a reasonable rate of return, after tax, on net rate base is 13.08 percent for the test year.

TAB 6

REASONS FOR DECISION

in the matter of a rate application
under the Ontario Energy Board Act by

UNION GAS LIMITED

E.B.R.O. 397

April 24, 1984

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RATE BASE

Introduction

Union submitted that its test year average rate base would be $832.8 million, made up as follows:

Table 1

Test Year Average Rate Base

Gas Utility Plant	($ thousands)
Gross plant at cost	951,276
Less accumulated depreciation	204,835
Net utility plant	746,441
Working Capital and Other Components	
Gas in storage and line pack gas	161,926
Inventory of stores spare equipment merchandise and materials for resale	11,746
Merchandise accounts receivable and mortgages receivable	9,890
Cash working capital	34,733
Other prepaid and deferred expenses	795
Total working capital and other components	219,090
Total Rate Base Before Deduction of Accumulated Deferred Income Taxes	965,531
Less Accumulated Deferred Income Taxes	132,750
Total Rate Base	832,781

Source: Exhibit 3A, Tab C1, Schedule 1 (Revised)

The Board accepts Union's proposal for the test year rate base as submitted except insofar as that proposal is amended herein.

CAPITALIZATION AND RATE OF RETURN

Introduction

In order to arrive at a reasonable return on rate base for Union the appropriate capital structure for its utility operations must be determined, also the cost rate that should be applied to each component of capital for the test year.

Since Union is involved in both utility and non-utility activities, it has been the practice in recent proceedings to develop a hypothetical capital structure for its utility operations. All long-term debt and almost all preference stock are considered to be utility. The level of common equity reflects the circumstances and risks associated with the utility operations and short-term debt is the balancing item that equates capital with rate base.

The following table outlines the Applicant's final submission for the test year based on a claimed rate base of $832.781 million:

Capital Structure	Amount ($000)	Ratio (%)	Cost Rate (%)	Weighted Cost (%)
Long Term Debt	456,629	54.83	12.01	6.59
Short Term Debt	10,056	1.21	11.10	0.13
Preference Stock	116,262	13.96	10.05	1.40
Common Equity	249,834	30.00	16.25	4.88
	832,781	100.00		13.00

Messrs. Kierans and Carmichael and Dr. Sherwin testified on behalf of Union as to the economic prospects for the test year, the probable impact on Union and also in support of the proposed capital structure and cost rates. Board staff called Dr. de Bever to testify on the economy and Mr. Parcell to testify as to the appropriate capital structure and cost of equity.

Messrs. Kierans and Carmichael forecast that the average rate of inflation over 1984 will be approximately 6.5 to 7.0 percent, increasing to about 7.5 percent for the first quarter of 1985. They forecast the bank prime rate to average 12.5 percent during 1984 and 13.5 percent in the first quarter of 1985 with long-term bonds being proportionately higher. They also suggested that pre-tax corporate profits were "surging" and that they would continue to improve throughout 1984.

Dr. Sherwin regarded a forecast of 5.4 percent for inflation in 1984 as reasonable, but considered that high interest rates suggested that the financial markets expect long-term core inflation will be above 6 percent.
Dr. Sherwin also cautioned that prospective Canadian Government deficits could cause the rate of inflation to reach the double digit level within the next two to three years. He forecast long-term Canada bonds to yield some 11.75 to 12 percent as an average for 1984. Corporate profits were forecast by Dr. Sherwin to increase in 1984 by about 35 percent.

Union however modified the forecasts of its witnesses and based its submission on a rate of inflation of 4.8 percent in the test year, a bank prime rate average of 11.5 percent and a long-term debt yield of 13.75 percent.

Dr. de Bever forecast for the test year a rate of inflation of approximately 5.7 percent, average bank prime rate of 11.5 percent and a long-term Government of Canada rate of 11.95 percent. He suggested that the current interest rates, being at such a large premium over inflation, have already discounted the future demands that will be placed on the system.

The Board accepts that the continuing high real interest rate levels suggest that the economic recovery may not be as strong as had been forecast. There is also some uncertainty as to the degree to which current interest rates discount the future demands which are expected to be placed on the money markets. Nevertheless the economic indicators that are forecast by the witnesses in this proceeding indicate reasonably stable conditions with only relatively minor changes occurring during the test year.

Long-Term Debt

The amount of long-term debt expected to be outstanding during the test year was not disputed and the Board accepts that the evidence supports the Applicant's submission.

Board Counsel offered the only challenge to the cost rate used by Union for long-term debt. He considered that the rate assumed for the $50 million debt expected to be issued in the test year was too high. He claimed that had Dr. de Bever's forecasts been used, the embedded cost rate for long-term debt would be 11.98 percent rather than the 12.01 percent used by Union. He also rejected the Applicant's revised accounting treatment of foreign currency transactions, arguing that the previous method should be retained which would further reduce the cost rate to approximately 11.92 percent.

The Board is satisfied that both Union's and Dr. de Bever's forecasts of cost rates at the time that Union is expected to raise capital are reasonable and that either one may prove to be correct. Since the adjustment recommended is relatively insignificant the Board will make no change to Union's submission.

With respect to Union's proposal to change its accounting treatment of foreign currency transactions the Board is satisfied that the change should be made in order to comply with the Canadian Institute of Chartered Accountants ("CICA") recommendations and with the currently accepted accounting principles.

Short-Term Debt

The amount of short-term debt is the balancing item in equating capital structure with rate base and is therefore a function of the Board's findings as to total rate base and the amount of each of the other components in the hypothetical capital structure.

Board Counsel considered that the average cost of short-term funds should be set at 1 percentage point below the bank prime rate of 11.5 percent forecast by Union.

In reply argument the Applicant claimed that interest rates on actual short-term borrowings for 1980 through to September 1983 disclosed that on average Union borrowed such funds some 58 basis points below bank prime.

The Board is concerned that the period covered in the actual figures filed by Union may not be a realistic indication of rates that will be experienced in the test year. Throughout the period covered by the actual figures there were only two periods, four months in 1980 and six months in 1983, where bank prime rates were stable and therefore comparable to the forecast for the test year. During each of those periods the average difference of short-term debt below prime was over 1.0 percent.

The Board has concluded that the probability is that the difference between bank prime rate of 11.5 percent and the short-term debt rate will average close to 1.0 percent during the stable period expected for the test year and therefore the Board will set the cost rate at 10.5 percent.

Preference Stock

There were no objections to either the amount or the cost rate for the preference stock applicable to the utility. The Board is satisfied that both have been supported by the evidence and accepts the Applicant's submission.

Common Equity

The level of common equity for Union approved most recently by the Board was 29 percent and as indicated the Applicant proposed that it should be increased to 30 percent. The current rate of return on common equity approved by the Board is 15.6 percent but Union claimed that changes in circumstances are such that this should be increased to 16.25 percent for the test year.

Messrs. Kierans and Carmichael were of the opinion that total risk, the sum of both the business and financial risks of the utility, must be assessed in the determination of the appropriate returns to which shareholders should be entitled in the future.

They identified several areas which they considered had increased Union's risk but in updating their evidence they emphasized the recent decision of the Divisional Court which upheld the Board's decision in E.B.R.O. 388 to disallow $8.7 million in gas costs. They claimed this introduced a new and unanticipated business risk for the shareholders of the utility. It was their opinion that the Board "must be prepared to accept a higher deemed common equity base for the stand alone utility" as a result of this. Although they believed 34 percent common equity would be reasonable, they considered it unlikely the Board would accept a significant increase in the deemed common equity base, and they therefore adopted Union's proposed 30 percent equity level and recommended that the higher compensation be accomplished through an increase in the rate of return.

Dr. Sherwin reviewed the risks Union was facing in the future and concluded that it should be ranked as a high risk utility probably incurring a greater relative risk than any of the 20 major utilities he reviewed. He also considered Union's risk had increased since E.B.R.O. 388. In updating his evidence he noted a substantial increase in the equity component of the consolidated company, which he believed could justify a recommendation of approximately 32 percent equity for the utility operations. However, he also elected not to alter the 30 percent common equity level he had earlier accepted but urged that a higher rate of return on equity be approved. His recommendation of 30 percent was based on his valuation of financial risk that Union is exposed to under the present circumstances, the changes in the capital structure of the utility and non-utility portions of Union, and a comparison of the capital structures maintained by other utilities.

None of the other participants supported Union's proposal that the equity component should be increased from 29 percent. Counsel for IGUA, Kitchener, C-I-L, and Board Counsel, all argued that the equity component of capital structure should remain at 29 percent. There was general agreement among those opposed to the increase that the risk faced by Union had not increased and it was argued that the other reasons put forward by witnesses for the Applicant were not compelling.

Board Counsel analyzed each component of increased risk that had been put forward by either Mr. Kierans, Mr. Carmichael or Dr. Sherwin to demonstrate that no increased risk had been incurred. He considered that the equity component attributable to the utility is sufficient in light of the amount of equity attributed to the non-utility. Board Counsel also pointed to Mr. Parcell's risk analysis which, he claimed, demonstrated that Union's utility operations remained less risky than unregulated industry and that the relative risks faced by Union's utility operations have not increased since E.B.R.O. 388.

The Board has reviewed the evidence with respect to the proposed increase in the common equity and is satisfied that:

- the overall risks faced by Union have not increased materially since the hearing of E.B.R.O. 388. The general perception of regulatory risk may be that it has increased slightly but business risk and financial risk have been reduced by an improved business climate and a more stable financial environment;

- the comparison with other utilities should be given little weight because of the circularity involved and because each of the utilities included in the sample differs significantly. Without a detailed examination of each, any realistic comparison is difficult;

- the relationship between the equity allocated to the utility and the balance, which is presumed to be non-utility, is recognized as an important consideration. In this case a utility equity component of 29 percent would produce a non-utility component of 49.8 percent compared to 45.9 percent if the utility equity component were 30 percent. The Board is satisfied that both levels of non-utility equity would be within the range of reasonableness and therefore not a factor in deciding the appropriate level of equity for the utility.

The Board agrees with Dr. Sherwin that the collection of deferred taxes permits a lower equity level for a company such as Union. In view of the decision herein with respect to deferred taxes and the above comments the Board finds that the evidence disclosed no change in circumstances that would cause it to alter the equity component from the current level of 29 percent.

In deciding the appropriate rate of return on common equity the Board is required to assess all of the rate of return evidence before it and to apply its judgement to decide the level that would be reasonable for Union. The evidence of Dr. Sherwin and Messrs. Kierans and Carmichael supported Union's proposal for an increase in rate of return, while Mr. Parcell advocated a range for the rate of return that encompassed the 15.6 percent allowed in E.B.R.O. 388. The recommendations by these experts varied from 15.00 percent to 17 percent, all based on analysis and interpretation using essentially the same data. The following summary of the methods used by the expert witnesses and the interpretation in argument by counsel of the results demonstrates the variance in opinion as to the rate of return that should be allowed.

Messrs. Kierans and Carmichael, after considering the current and prospective economic conditions, the earnings of comparable industrial companies and the investor required return ("IRR") using both discounted cash flow ("DCF") analyses and equity risk premium analyses, concluded that the rate of return on common equity should be not less than 16.25 percent. In updating their testimony during the hearing they revised this position indicating that the change in risk resulting from the decision of the appeal of the Board's decision in E.B.R.O. 388 to the Divisional Court was such that they now considered that the rate of return on common equity should lie in the range of 16.5 to 16.75 percent.

Dr. Sherwin based his recommendation on the comparable earnings test applied to industrials, the risk premium approach (for which he used three techniques of measurement) and a DCF analysis referring to groups of industrials and utilities. He recommended that the rate of return on common equity should be in the range of 16.25 to 16.5 percent. In updating his evidence at the commencement of the hearing he indicated the changes in risk faced by Union were such that he believed the rate of return should be no less than 17 percent on common equity.

Mr. Parcell employed a comparable earnings analysis using groups of industrial companies. He also used an equity risk premium analysis and on the basis of these tests recommended that the rate of return on common equity be set between 15 and 16 percent.

Messrs. Kierans and Carmichael used two tests in their determination of the rate of return on equity: the comparable earnings approach and the current cost of common equity capital measure, or the IRR. They accepted that a measure of financial integrity would be the retention of market-to-book between 115 percent and 120 percent and concluded from their assessment of other utilities that since Union must contend with higher risks, anything less than 16.25 percent rate of return on book equity would be inadequate to preserve financial integrity.

They examined median returns on book equity and median market-to-book ratios of so called comparable

Canadian companies for the periods commencing in 1975 or 1977 and ending in 1980, 1981 or 1982. Greater emphasis was placed on the periods 1975 to 1981 and 1977 to 1981 which produced a median return of 16.06 percent and 16.73 percent and a median market-to-book of 135 percent and 117 percent respectively. On this basis they claimed the comparable earnings test supported a 16.25 percent rate of return on equity.

Messrs. Kierans and Carmichael analyzed the IRR requirements for a sample group of industrial companies they considered to be comparable to Union and for a sample of telephone utilities. They also examined the equity premiums required over short and long-term debt instruments.

The IRR test for industrials produced a recommendation that the rate of return on equity should lie between 15.78 percent and 16.31 percent while the analysis of telephone companies confirmed that return on book equity for high quality utilities should lie between 15.5 and 16 percent with Union's greater risk justifying a higher rate of return. They concluded that the risk premium analysis, after adjustments suggested a range of 16.35 percent to 17.50 percent.

Dr. Sherwin indicated that his recommendation with respect to the rate of return was anchored on the comparable earnings test as applied to industrials. For the cost of attracting capital he relied principally on the risk premium approach which he determined using three different techniques. He also provided the results of DCF studies using groups of industrials and utilities but indicated that relatively little weight had been given to these results. Dr. Sherwin expressed the opinion that undue weight should not be given to industrial earnings in the test year but that the average return over a business cycle should be the base line for utility returns. Adjustments for test year conditions should, he claimed, not exceed plus or minus 0.5 percentage points from that base line. He considered that the last business cycle, 1976 to 1982, included an unusual swing in 1982, and was of the opinion that recognition of 1982 returns in a forecast of the next business cycle may understate the probable profit rate.

As noted earlier Dr. Sherwin assessed Union as a high risk utility. He also stated that a utility of average risk should have a common equity return of 1 to 1.5 percent above that of a low risk utility and the difference between a low and high risk utility should be 2 percentage points. He considered that Union should be permitted a rate of return on equity about 75 basis points above that of the average Canadian utility.

In his comparable earnings test Dr. Sherwin considered that the most recent business cycle spans the period mid-1975 through to 1982. He selected the 1976 to 1982 period as the benchmark for prospective returns on the premise that industrial earnings in the next cycle will approximate those of the last cycle. He recognized the difficulty in predicting whether the next cycle will equal the last cycle. Through a review of the economic factors likely to be encountered over the next business cycle, he concluded that the achieved returns of the last business cycle provide a reasonable proxy for prospective returns even though the industrial returns in the test year may not reach the average level projected for the next business cycle.

With respect to the selection of industrial samples Dr. Sherwin used two criteria: rankings by investment advisory services and stability of returns. He indicated that principal emphasis had been placed on those selected by stability of returns since he considered the advisory services selection involved an element of circularity. He used the coefficient of variation ("COV") to select four samples, each covering a seven and ten year period ending in 1981 and 1982. On this basis he found that the returns averaged 15.9 percent for the period ending 1981 and 16.3 percent for the period ending 1982. Market-to-book for the eight samples averaged between 116 percent and 126 percent.

He ultimately concluded that the average returns for stable industrials over the next business cycle would be 16.0 to 16.25 percent and that Union's somewhat greater risk would be offset by the possibility that industrial earnings in the test year may fall short of the projected return. On this basis he claimed the comparable earnings-financial integrity test requires a return of no less than 16.25 percent for Union.

With respect to the regulated companies Dr. Sherwin examined the return on equity and market-to-book ratios and concluded that no reasonable inference could be drawn from the information available.

Although giving less weight to the results, Dr. Sherwin provided information on the DCF tests as applied to four non-diversified gas-electric utilities, five telephone companies, and two groups of stable Canadian industrials. After adjusting for risk, Dr. Sherwin found that the DCF analysis suggested the bare bones cost for Union's utility operations should be 15.75 percent and, after allowing for flotation costs, he concluded that the rate of return should be no less than 16.5 percent.

Dr. Sherwin called the equity risk premium an alternative technique for estimating the cost of attracting capital which can be applied to either debt or preference stocks. He used three techniques which produced a range of 15.5 to 16.25 percent with a mid-point of 15.875 percent, excluding flotation costs. With flotation costs added, he considered that the cost of capital would be above 16.25 percent.

In estimating the rate of return on equity for Union, Mr. Parcell used the comparable earnings approach and an equity risk premium analysis. The latter considered both the opportunity cost of equity and the market cost of equity.

Mr. Parcell's comparable earnings analysis covered the period from 1973 to 1982. He claimed the longer period was necessary in order to avoid undue influence by unusual or abnormal conditions. In arriving at the current cost of equity however he gave more weight to the last five years' experience. He also analysed the seven year period 1976 to 1982 since this was used by Dr. Sherwin.

Mr. Parcell developed and analysed data for groups of large U.S. and Canadian industrial companies and he also analyzed the information which Dr. Sherwin, and Messrs. Kierans and Carmichael presented for their selected groups of industrials and utilities.

He found that the 29 largest Canadian companies as listed in the Fortune 500 largest industrial firms outside the U.S.A. had an average rate of return on equity of 14.3 percent over the past ten years and 13.7 percent over the last five years, while market-to-book averaged 135 percent and 128 percent respectively. The group of U.S. industrial companies listed in Standard and Poor's 400, had an average return of 14.5 percent over the last ten years and 14.9 percent over the last five years. During that period market-to-book averaged 133 percent and 120 percent respectively. On the basis of these results Mr. Parcell concluded that since 1978 a return of 14.9 percent produced a market-to-book ratio slightly above the level necessary to preserve financial integrity and attract capital.

Mr. Parcell reviewed Dr. Sherwin's tests and noted that the average returns achieved by the companies selected by Dr. Sherwin resulted in average market-to-book ratios in excess of the levels considered necessary to attract capital and maintain financial integrity. He also analyzed the results obtained by Messrs. Kierans and Carmichael and concluded that there has been no upward trend in the level of return required to preserve financial integrity and for capital attraction.

Mr. Parcell also examined the risks faced by Union and concluded that the overall risk of Union's utility operations remained less than that of an unregulated industry. He noted that over the past five years Union's return on equity averaged 11.4 percent and its market-to-book 122 percent. He noted that while Union's unregulated activities make these figures less than totally useful, Union as a whole provided a closer proxy for the cost of capital to a gas utility than do groups of unregulated industrials with no utility operations.

He reviewed the risks faced by Consumers' and concluded that on a comparable basis Union remained slightly more risky than Consumers'.

Based on his comparable earnings test and his evaluation of the economic future Mr. Parcell concluded that a range of 15 to 16 percent represents the cost of equity capital for Union's utility operations. He also considered that over the past two years the opportunity cost of capital has not increased but appears to have decreased. On this basis he suggested that the fair cost of equity for Union is no higher than it was in E.B.R.O. 388.

Mr. Parcell noted a number of significant problems in the application of the risk premium technique. He itemized criteria which he believed must be met to avoid these problems and developed a method which, he claimed, satisfied these criteria.

He concluded that the risk premium range is 3 to 4 percentage points which, when added to the prospective yield on long-term Government of Canada bonds of 11.85 percent, produced a range of 14.85 to 15.85 percent. He considered that this range required no adjustment for flotation costs and since Union is less risky than industrials, his equity risk premium method may produce an overstatement of Union's cost of equity.

He also concluded that on the basis of his testing the cost of equity should be set at 15 to 16 percent for Union's utility operations.

Mr. Thompson argued that the regulatory risks have not increased since E.B.R.O. 388 and that changes in financial indicators since that time suggest that the overall cost of capital expected to prevail during fiscal 1985 is less than was expected to prevail for fiscal 1984. On this basis, and since the witnesses in this case recommended a return lower than they recommended in E.B.R.O. 388, he argued that the rate of return on equity should be lowered and should be no greater than 15.5 percent.

Mr. Ryder argued that the allowed return on equity for the Applicant should be 14.75 percent. He interpreted Mr. Parcell's evidence to indicate that a return of 14.75 percent would achieve a market-to-book of 115 percent. He noted that only one of the groups selected, the 20 comparable Canadian companies chosen by Messrs. Kierans and Carmichael, could not clearly be demonstrated as supporting a market-to-book of 115 percent if the return were at 14.75 percent. He claimed that the three groups of utilities presented by Dr. Sherwin neither conclusively supported or rejected his 14.75 percent recommendation.

Mr. Ryder also questioned the need for a market-to-book of 115 percent in order to maintain financial integrity. He argued that flotation costs should apply only to the amount of equity to be raised, not to the entire equity component of capital. He also recommended that market pressure and random market volatility should be ignored in assessing the financial integrity standard. He claimed that the margin above the 100 percent level of market-to-book should not exceed 5 percent.

Mr. Ryder expressed concern with the manner in which Union's witnesses applied their tests claiming that carelessness can lead to serious distortion of the true outcome. He then recalculated the various tests undertaken by the witnesses and produced considerably lower results. Mr. Ryder concluded that the evidence supported a cost of common equity between 13.84 and 14.11 percent. However, he recommended 14.75 percent because the comparable earnings test seemed to support a higher cost of equity, a small margin of safety was required in favour of the Applicant and as well, a reduction below 14.75 percent would be too drastic in one year.

Mr. Kawalec submitted that the evidence did not support any increase in the rate of return on equity above the present approved level.

C-I-L submitted that the rate of return on equity should be fixed by the Board between 15.3 and 15.6 percent. It claimed that an allowed return within that range would be consistent with recent decisions issued by the Board unless the evidence disclosed significant changes in Union's situation and that there was no such evidence.

C-I-L submitted that Messrs. Kierans and Carmichael and Dr. Sherwin had placed too much emphasis on negative factors and that the positive aspects of the Company's operations had been underplayed. It claimed that Dr. Sherwin's assessment of risks facing Union was incorrect, pointing out that neither the Company nor the market place takes the position that Union is the riskiest of the 20 major utilities in Canada. C-I-L considered that had these witnesses taken a more balanced approach they would have recommended a lower rate of return on equity.

Board Counsel pointed out that although Union is requesting a 16.25 percent return on equity, Dr. Sherwin and Messrs. Kierans and Carmichael recommended returns in excess of that level. In his argument Board Counsel concluded that for a number of reasons Messrs. Kierans and Carmichael may have overstated the required rate of return on equity for Union. He argued that some of the tests used by Dr. Sherwin produced results that were biased in an upward direction whereas others should be ignored completely. He submitted that the range of 15 to 16 percent proposed by Mr. Parcell was appropriate. Since he found no compelling reason to move to the top or bottom of the range he recommended a 15.5 percent return on common equity.

In assessing the evidence the Board has examined the changes that have occurred since its most recent decision for Union, E.B.R.O. 388. Messrs. Kierans and Carmichael and Dr. Sherwin identify changes they consider impact negatively on the risks faced by Union and thus on the investor perception of the Company. The Board realizes that these expert witnesses appear on behalf of the Applicant and therefore can be expected to support an increase in the allowed return. However, the Board is concerned with what appears to be an excessive emphasis on perceived negative impacts while positive changes have been virtually ignored. As noted earlier the Board considers that any negative impacts arising from changes since the last decision have been more than offset by the positive impact of an improving economy and financial stability. The Board assumes that Union shares this view since it chose not to adopt the somewhat higher recommendations of its rate of return witnesses.

The Board continues to hold the view that a comparable earnings test provides useful information to be used in deciding the appropriate rate of return on equity. The Board is satisfied that Dr. Sherwin's adjustments for risk result in a recommendation considerably higher than the evidence supports. We consider his adjustment from 16.25 percent to 17.0 percent in the updated material to be unwarranted and not supported by the comparable earnings data submitted. The Board has some doubt that the next business cycle will result in average returns for stable industrials of 16.0 percent to 16.25 percent as suggested by Dr. Sherwin, but accepts it as possible. We consider, however, that Union is less risky than the stable industrials so that the rate of return should be lower. A further adjustment should also be made to recognize that the industrials are not expected to reach the average return during the test year and to reflect the fact that average market-to-book ratios experienced in the last business cycle were somewhat above the range considered appropriate for maintenance of financial integrity.

The Board notes that by making similar adjustments to the results of the tests by Messrs. Kierans and Carmichael and to the other tests conducted by Dr. Sherwin, the range of reasonable rate of return appears to be 15.5 percent to 15.75 percent, which is in the upper portion of the range recommended by Mr. Parcell. In reviewing all of the relevant evidence the Board can find no reason to select either the upper or the lower end of this range and the Board will therefore retain the currently approved rate of return on equity of 15.6 percent.

The utility capital structure approved by the Board is as follows:

Capital Structure	Amount $000	Ratio %	Cost/ Rate %	Weighted Cost %
Long-Term Debt	456,629	55.00	12.01	6.61
Short-Term Debt	16,609	2.00	10.50	0.21
Preference Stock	116,262	14.00	10.05	1.41
Common Equity	240,781	29.00	15.60	4.52
	830,281			12.75

ONTARIO UTILITY INCOME

Introduction

Without rate relief Union's utility operations would generate an income of $95.9 million as summarized below. The Board has only commented on issues it considered important and accepts Union's forecasts except where varied by these Reasons for Decision.

Summary of Utility Income for the Test Year

	($ thousands)
Operating Revenues:	
Gas Sales	1,213,659
Transportation and storage of gas	43,019
Other	26,419
	1,283,097
Operating Expenses:	
Cost of gas	994,764
Operating and maintenance costs	110,855
Depreciation amortization and depletion	31,081
Property and capital taxes	13,944
	1,150,644
Utility income before income taxes	132,453
Income taxes	36,583
Total utility income	95,870

Source: Exhibit 3B, Tab D1, Schedule 1 (Revised), Exhibit 86 and adjusted to include the capitalization of overheads as proposed by the Applicant.

Each of the accounts is reduced by the refund allocated to that account and the surplus in Account Number 2 is to be credited to Account Number 3. Therefore, as of March 31, 1984, Account Number 1 will have a balance of $9.659 million. Account Number 2 will have a zero balance and Account Number 3 will be the accrued total at March 31, 1984, less $8.204 million, the balance of the tax refund. Account Number 3 will be carried on Union's books as a deferred asset account. The $19.837 million plus $0.716 million claimed by Union is reduced to $5.261 million and the test year revenue deficiency is thereby reduced by a total of $15.292 million.

Deferred Taxes

Union is the only major Ontario gas utility collecting taxes on a deferred (or normalized) rather than a flowthrough (or accrual) basis and it has been doing so consistently since deferrals were introduced into Canadian tax legislation almost 30 years ago. Changing from the deferred to flowthrough method would reduce the revenue deficiency forecast by Union by $17.5 million in the test year.

The evidence of the various experts called by Union advocated no change in the Company's tax accounting methods and this was supported by Board Counsel. The flowthrough accounting method was supported by C-I-L and other intervenors. All experts agreed however that both deferred and flowthrough met the requirements of the

Canadian Institute of Chartered Accounts ("CICA") but there was some disagreement as to which was the preferred method. The Board having examined the CICA Handbook and having heard the evidence, is of the opinion that the collection of taxes on a deferred basis is preferred by the CICA, but since this preference is not mandated by the CICA, the Board feels free to choose either method.

In advocating the change to flowthrough, counsel for C-I-L pointed out that the whole question of deferred taxes was not simply an accounting issue but was ". . . a question of what are just and reasonable rates to be charged to customers." IGUA supported C-I-L and pointed out that ". . . marketing of natural gas is a far more severe and difficult problem (now) than it was when Union first adopted normalized tax accounting."

A perusal of regulatory decisions on this point clearly shows that one of the most prominent reasons given by tribunals for the change to flowthrough appears to be the creation of lower rates in the short run.

Union argued that any move to flowthrough tax accounting would have an adverse effect on its interest coverage ratios and its concomitant ability to raise debt. Mr. Kellock pointed out that all witnesses on rate of return, including Mr. Parcell, testified that disallowance of deferred tax accounting for the test year would necessitate an increase in the deemed equity component or in the return on equity or a combination of both. Although no precise studies were undertaken by any witness, Dr. Sherwin and Mr. Miller testified that a 5 percentage point increase in the deemed equity component would in their opinion, be necessary to maintain the same coverage ratio and debt issuing capacity. Mr. Kellock therefore submitted that:

> "no reasons of substance that reflect Union's specific history, current conditions or outlook have been submitted as a basis for changing (a) long standing and fundamentally correct accounting practice."

Proponents of the flowthrough method argued that customers must now pay $2.00 in cost of service to provide $1.00 of deferred tax, whereas with flowthrough accounting the customers would pay only $0.20 for the $1.00 of debt required to compensate the company's operations for the loss of the extra income occasioned by flowthrough tax accounting.

The Board is concerned that although a change to flowthrough tax accounting may provide a benefit to customers in the early years, that benefit may disappear over time with higher customer costs. It is also clear that as the flowthrough method would result in more corporate borrowing, the Company would be more vulnerable to fluctuating interest rates and availability of funds.

In reaching its conclusion as to the appropriate tax treatment, the issue of aggregate cross-over (when the accumulated deferred tax account ceases to increase and draw-down commences) appears to be irrelevant because of the uncertainty of when, if ever, it will occur.

The Board also rejects the argument put forward by C-I-L that Union's customers are being forced to invest in the Company as a result of the Company's collecting taxes on a deferred basis. The Board is satisfied that since it is the government that foregoes payment, it is more accurate to say that the government is investing <u>its</u> money at zero return, not the customer's.

The Board is not satisfied that the customers will benefit in the long-run from a change to flowthrough, even if it was decided that no changes were necessary to Union's capital structure or rate of return. While a change would decrease Union's claimed revenue deficiency and provide a short-run benefit to customers it could have a negative impact on Union's credit-worthiness. Having evaluated all of the evidence the Board does not consider that a change is warranted from the present long standing method employed by Union for the treatment of income taxes.

In light of the extensive examination given to deferred income taxes in this hearing the Board's decision in E.B.R.O. 388 to impute revenue to the utility equal to 1 percent of the non-utility accumulated tax deferrals was re-examined. As a result, the Board has concluded that no revenue should be imputed to the utility as a result of the non-utility accumulated tax deferrals and the effect on the revenue requirement is shown in "other revenue" in Appendix 'C'.

TAB 7

Ontario
Energy
Board

VT INCEPIT FIDELIS SIC PERMANET
Ontario

E.B.R.O. 486

IN THE MATTER OF THE
ONTARIO ENERGY BOARD ACT

AND

IN THE MATTER OF AN APPLICATION BY

UNION GAS LIMITED

FOR RATES

DECISION WITH REASONS

JULY 19, 1995

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UNION GAS LIMITED
UTILITY RATE BASE
For The Year Ending March 31, 1996
($ 000's)

	Per Company(a)	ADR Adj.	Board Adj.	Per Board(b)
Utility Plant				
Gross Plant At Cost	2,864,429	3,235	(2,157)*(1)*	2,865,507
Accumulated Depreciation	697,033			697,033
Net Utility Plant	2,167,396	3,235	(2,157)	2,168,474
Working Capital and Other Components				
Cash Working Capital Allowance	9,621			9,621
Gas in Storage and Line Pack Gas	134,751		1,774 *(2)*	136,525
Inventory of Stores, Spare Equipment				0
Merchandise and Materials for Resale	31,104			31,104
Other Deferred	653			653
Merchandise Accounts Receivable	51,441			51,441
Stelco Loan	2,956		(2,956)*(3)*	0
Prepaid and Deferred Expenses	2,356			2,356
Customer Security Deposits	(6,809)			(6,809)
Mercap Investment	2,574			2,574
Total Working Capital Allowance and Other Components	228,647	0	(1,182)	227,465
Utility Rate Base Before Deduction of Accumulated Deferred Taxes	2,396,043	3,235	(3,339)	2,395,939
Accumulated Deferred Income Taxes	(307,180)		0	(307,180)
Utility Rate Base	2,088,863	3,235	(3,339)	2,088,759

(a) Final Company Request (Exhibit M.31.3) Less ADR Adjustments
(b) Does Not Reflect the Yet-To-Be Determined Impact of the Board Findings on the Distribution Capital Budget and the Bright to Owen Sound Facilities

FOOTNOTES:

(1) Decrease in Sombra Pool Cushion Gas	(2,157)
(2) Increase in Sombra Pool Gas in Storage	1,774
(3) Removal of Stelco Loan from Rate Base	(2,956)

UNION GAS LIMITED
CAPITALIZATION AND COST OF CAPITAL
For The Year Ending March 31, 1996
($ 000's)

PER COMPANY (a)

	Capital Structure	Ratios	Cost Rate	Return Component	Return
Long-Term Debt	1,267,271	60.67%	10.30%	6.25%	130,529
Short-Term Debt	17,886	0.85%	6.34%	0.05%	1,134
Preference Capital	197,936	9.48%	7.38%	0.70%	14,608
Common Equity	605,770	29.00%	13.00%	3.77%	78,750
Total	2,088,863	100.00%		10.77%	225,021

(a) Does Not Include ADR Adjustments

PER BOARD

	Capital Structure	Ratios	Cost Rate	Return Component	Return
Long-Term Debt	1,267,271	60.67%	10.37%	6.29%	131,416
Short-Term Debt	17,812	0.85%	6.34%	0.05%	1,129
Preference Capital	197,936	9.48%	7.38%	0.70%	14,608
Common Equity	605,740	29.00%	11.75%	3.41%	71,174
Total	2,088,759	100.00%		10.45%	218,327

TAB 8

Ontario Energy Board

Ontario

E.B.R.O. 493/494

IN THE MATTER OF THE
ONTARIO ENERGY BOARD ACT

AND

IN THE MATTER OF APPLICATIONS BY

CENTRA GAS ONTARIO INC.

AND

UNION GAS LIMITED

FOR RATES

DECISION WITH REASONS - Volume I

March 20, 1997

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Table 7.1: Financial Forecasts of Companies' and Intervenors' Experts

	Original Experts' Forecasts Prefiled Evidence			Updated Forecasts Requested by Board		
	Union Centra	**Board Staff**	**OCAP**	**Union Centra**	**Board Staff**	**OCAP**
Short Term Rates 90/91 T-Bills (%)	5.25-5.50	4.60-5.45	n/a	4.00-4.50	3.30-3.50	n/a
Long Term Rates 30 year Canadas (%)	7.50-8.0	7.85-8.15	7.50-8.0	7.00-7.50	6.78-7.00	7.25-7.75
Consensus Report	90-Day T-Bills: 5.50% Long Canadas: 8.25%			90-Day T-Bills: 3.60% Long Canadas: 7.15%		

7.2 UNION: CHANGE FROM NORMALIZED (DEFERRED) TO FLOW-THROUGH INCOME TAX ACCOUNTING

7.2.1 In prior years Union's income taxes were calculated on the basis of normalized (deferred) tax accounting.

7.2.2 In the E.B.R.O. 486 Decision, the Board noted that Union was one of the few utilities in Canada that used deferred tax accounting. It also expressed the view that waiting for a possible merger of Union and Centra could delay the resolution of the issue; and that any change should only impact Union's customers and not Centra's. In that Decision the Board directed Union to provide evidence in its next main rates case both on a normalized (deferred) and flow-through tax basis and to provide a proposal as to how already collected deferred taxes would be treated under a flow-through option.

7.2.3 Union accordingly filed the requested evidence and proposed changing from normalized to flow-through tax accounting starting in the test year.

7.2.4 The Companies' evidence was that the determination of taxable income requires that book depreciation be added back to earnings before tax and capital cost allowances ("CCA") are deducted. Book depreciation and tax depreciation are recognized at different rates and there is a timing difference.

7.2.5 In general, the tax depreciation rate exceeds the book depreciation rate. Consequently, taxable income and taxes payable tend to be lower in the earlier years of the life of an asset such as utility plant and greater in the later years. Under flow-through tax accounting the effective tax rate is lower than the statutory tax rate in the early years of asset life and then reaches a cross over point and becomes greater.

7.2.6 Normalized tax accounting smooths out the tax-related impacts on cost of service and income by using a tax provision equivalent to the book accounting income which therefore includes a current tax portion and a deferred (future) tax provision. The deferred tax provision recognizes that tax avoided in the earlier years will have to be paid later. The deferred tax provisions over a number of years result in accumulated deferred taxes that are offset by a deferred tax liability. Following the cross over year the deferred taxes associated with an asset are drawn down as the taxes become payable.

7.2.7 For the 1997 test year Union's original forecast was that if flow-through tax accounting was adopted, income taxes payable would be reduced by about $9 million. The Company also projected that following the change to flow-through tax accounting, the Company's capital expenditure program would still generate tax deductions in excess of book depreciation.

7.2.8 The experts retained by OCAP and Board Staff accepted the proposed change from normalized to flow-through tax accounting and the parties to the ADR Settlement Agreement also supported the proposed change.

7.2.9 As noted previously in Chapter 3, the Companies originally proposed to maintain their rental programs on deferred tax accounting in anticipation of the separation of these ancillary programs from the regulated utility business in 1997. In the ADR process the Companies agreed to retain the rental programs as part of the 1997 Utility business and to use flow-through tax accounting for the test year. The rental programs added $81.4 million to Union's 1997 total capitalization as filed and $24.2 million to Centra's 1997 capitalization.

Board Findings

7.2.10 The Board's understanding of the Company's evidence is that the change to flow-through tax accounting results in no significant impact on ratepayers in the test year. The change is supported by both the Company's and intervenors' experts and the unchallenged evidence is that the change will bring Union in line with other Canadian utilities and lead to a consistent approach with Centra.

7.2.11 The Board accordingly finds the change to flow-through tax accounting for Union to be appropriate.

7.3 UNION: DEFERRED TAX DRAW DOWN AND ADJUSTMENTS TO CAPITAL STRUCTURE

7.3.1 Union stated that the main consequences of the change to flow-through tax accounting are:

- the need for transitional measures to deal with the existing accumulated deferred tax balance of $262.2 million related to the regulated Utility, exclusive of the rental program as of the end of 1996; and
- adjustments to the utility capital structure in order to maintain financial ratios at acceptable levels.

7.3.2 Based on the recommendations of its experts, Union proposed to draw down the deferred tax pool associated with its accumulated capital asset base using the natural draw down method. As taxes resulting from depreciation of the assets become payable, tax is drawn down from the deferred tax pool. Union's experts indicated that natural draw down would ensure the maintenance of appropriate interest coverage ratios and cash flow in future years.

7.3.3 Union proposed that the deferred tax balance be "frozen" at the end of 1996 and the balance reduced over 17 years as the accumulated income taxes otherwise become payable. According to Union's calculations, as filed in evidence, the use of the 'natural draw down' method would mean no draw down in 1997, since CCA income tax deductions exceed accounting deductions (depreciation) until a cross over occurs and draw down commences in 1998. The draw down of deferred taxes is forecast to reduce the annual revenue requirement from 1998 until the year 2013.

7.3.4 In future years, as the rate base increases and as the deferred tax balance is reduced there is a need to attribute more debt and equity to the utility capital structure. According to Union, the natural draw down method ensures that the decline in the deferred tax balance matches the depreciation of the assets associated with that balance and has the least impact on financial coverage ratios.

7.3.5 Union stated that it had examined other alternatives to the natural draw down method including a 10-year straight line draw down, but its calculations showed that interest coverage would decline by an average 0.22 times in the period 1997-2001. The 'natural draw down' method proposed by Union provides benefits to ratepayers without significantly eroding interest coverage ratios.

7.3.6 OCAP's experts, in supporting the natural draw down method proposed by the Companies, characterized the methodology as tantamount to maintaining normalized tax treatment for existing assets. Benefits to ratepayers result from the ratepayers having already paid taxes under normalized (deferred) tax treatment and nothing would change as a result of the switch to flow-through accounting on a prospective basis.

7.3.7 In the ADR Settlement Agreement Union acknowledged that there may be issues of intergenerational equity and fairness related to the disposal of the deferred tax balance and undertook to file evidence on a proposed allocation methodology and also to address intergenerational equity and fairness in the 1998 rates case.

Board Findings

7.3.8 The Board finds that Union's proposal to use the natural draw down method to be the most practical alternative presented to it. However. the Board is concerned that Union has not thought through the necessary accounting and audit trail for the draw down of the estimated $262 million in deferred taxes over the period 1998 to 2013. The Board directs Union to establish the necessary accounting and audit system to ensure the deferred tax draw down and its allocation into rates is tracked and reported in future rates cases.

7.3.9 The Board also directs the Company to ensure in its cost allocation and rate design following the proposed amalgamation of Union and Centra that the benefits and costs flow, to the extent possible, only to those customers who contributed to the accumulated deferred tax pool. The Board understands these to be the in-franchise and ex-franchise customers for S&T Assets and Union's in-franchise customers or the equivalent successor customer grouping for Distribution Assets.

7.4 UNION: CAPITAL STRUCTURE AND COST OF DEBT

Capital Structure

7.4.1 The Company proposed an increase in the deemed utility common equity component from 29.0% to 35.0%, based on its experts' and management's view that following the change to flow-through taxes, 35.0% is compatible with Union's business risks, comparable to equity ratios maintained by other gas distributors and necessary to maintain coverage ratios and financing flexibility. Union's original proposal included separation of the rental program with a deemed capital structure of 29.0%, thus resulting in an average utility capital structure of 34.5% for 1997.

7.4.2 Another significant change to Union's capital structure resulted from management's decision to replace $125 million of preference shares with a combination of short-term debt and common equity. This move was prompted by a change in the Canadian Institute of Chartered Accountants ("CICA's") tax accounting treatment which treats most preference share dividends as interest expense and thus would negatively impact Union's interest coverage ratio. Union indicated that it would be able to redeem all but $10.5 million of its outstanding preference shares without penalty.

7.4.3 The Company's evidence was that these two changes resulted in a required equity injection of $116.0 million in 1997. Forecast growth in the rate base would add a further $30 million equity requirement for a total forecast equity increase of $147 million over the Board approved level for the 1995 test year.

7.4.4 In the ADR Settlement Agreement the parties agreed to retain the rental program in the utility capital structure for the test year and to a deemed utility equity component of 34.0%.

Union: Cost of Short and Long-Term Debt

7.4.5 Union's *short-term debt cost* is calculated based on the forecast requirement times a blended cost rate. This blended rate is calculated based on bank loans at forecast prime (6% weight) and the forecast 90 day T-Bill rate plus spread and cost (94% weight). Union's updated evidence forecast $58.676 million of short-tern debt at a blended rate of 6.42% resulting in an annual cost of $3.767 million. The ADR Settlement Agreement resulted in short-term debt increasing, primarily as a result of the recommendation to retain the rental equipment program in Rate Base for 1997, to a recommended amount of $121.718 million of short-term debt at a blended rate of 5.45% and 1997 test year cost of $6.634 million.

7.4.6 Union does not plan any *long-term debt* issues in 1997, so the proposed long and medium term debt for the test year is the embedded $1,241.605 million in outstanding debt at an actual average rate of 10.19% and test year cost of $126.520 million.

7.5 CENTRA: CAPITAL STRUCTURE AND COST OF DEBT

Capital Structure

7.5.1 No major changes to Centra's capital structure or common equity ratio of 36.0% were proposed for 1997. Significant growth in the Rate Base from $669 million to $772.5 million between 1995 to 1997 required an injection of $115 million in long-term debt and increase in equity. As a result of the ADR Settlement Agreement to retain the rental program within the Utility the proposed average test year Rate Base increased to $792.1 million with a corresponding increase in unfunded short-term debt from $15.077 million to $27.601 million.

Centra: Cost of Short and Long-Term Debt

7.5.2 Centra's *short-term debt cost* is calculated based on the forecast requirement using the forecast 90/91 day T-Bill rate plus a 75 basis point stamping fee. Centra's updated forecast was for an average $15.077 million of short-term debt at a rate of 6.75% resulting in an annual cost of $1.018 million. The ADR Settlement Agreement resulted in a recommended short-term debt amount of $27.601 million at a rate of 5.75% and a 1997 test year cost of $1.587 million.

7.5.3 Centra's prefiled evidence indicated a forecast test year average *long-term debt* of $470.583 million. Two new debt issues were planned - $65 million in 1996 at a forecast coupon rate of 8.64% and a further $50 million at a forecast rate, including issue costs, of 8.90% in 1997. The ADR Settlement Agreement recommended an effective rate, including issue costs, of 8.70% for the 1997 debt issue. This resulted in an average 1997 total long-term debt of $470.583 million at an embedded cost of 9.72%.

7.5.4 In its updated evidence, Centra indicated that it had issued $75 million long-term debt in October 1996 at a coupon rate of 7.80% corresponding to an effective rate, including issue costs, of 7.96% and that it still planned to issue $50 million in 1997 at a forecast effective rate of 8.70%. The Company subsequently indicated in its reply argument that the average total long-term debt would now increase by $10 million to $480.583 million at an average (embedded and new) cost rate of 9.57%.

7.6 UNION: COST OF COMMON EQUITY

7.6.1 The experts retained by the Companies and intervenors made a variety of recommendations regarding the allowable rate of return on the proposed 34.50% equity component for the 1997 test year. Each party employed a series of tests based on its own input assumptions and based its final recommendations on different weighting of test results. The results are set out in Table 7.2.

Table 7.2: Union: Proposed Return on Common Equity (Original Filings)

Party	Comparable Earnings Test	Risk Premium Test	DCF Test	Weighted Return on Equity
Union (Sherwin/McShane)	11.75-12.5%	12.25-12.5%	12.3-12.7%	12.25-12.5%
Board Staff (Cannon)	10.77-10.92%	10.1-10.7%	9.4-10.7%	10.5-10.9%
OCAP (Booth/Berkowitz)	n/a	9.82-10.40%	8.96-9.86%	10.25%

7.6.2 Union later updated its return on equity evidence and proposed a return on common equity of 12.75% for the 1997 test year.

7.7 CENTRA: COST OF COMMON EQUITY

7.7.1 Centra initially filed evidence in support of a 12.75% return on common equity for the 1997 test year.

7.7.2 The parties' experts used the same financial market data and tests, plus a judgement of the relative "risk" of the two Companies, to prepare their recommendations for Centra's allowable rate of return on its 36% equity component for the 1997 test year. The results are set out in Table 7.3.

Table 7.3: Centra: Proposed Return on Common Equity (Original Filing)

Party	Proposed Return on Common Equity
Centra (Sherwin, McShane)	12.75%
Board Staff (Cannon)	11.15%
OCAP (Booth, Berkowitz)	10.25%

7.7.3 Centra later updated its return on equity evidence and proposed a return on common equity of 13.0% for the 1997 test year.

UNION GAS LIMITED.
UTILITY RATE BASE
For The Year Ending December 31, 1997
($ 000's)

	Per Company *[1]*	ADR Adjustment	Board Adjustment	Per Board
Utility Plant				
Gross Plant at Cost	3,142,422	(3,297) *[2]*	0	3,139,125
Accumulated Depreciation	(839,653)	207 *[3]*	0	(839,446)
Net Utility Plant	2,302,769	(3,090)	0	2,299,679
Allowance for Working Capital				
Working Cash Allowance	9,536	(35) *[4]*		9,501
Gas In Inventory and Line Pack Gas	115,702			115,702
Materials for Resale	30,195			30,195
Accounts Receivable	6,942	81,367 *[5]*		88,309
Prepaid and Deferred Expenses	1,163			1,163
Customer Deposits	(6,699)			(6,699)
Mercap Investment	2,381			2,381
Other Deferred	988			988
Total Working Capital Allowance	160,208	81,332	0	241,540
Less: Accumulated Deferred Income Taxes	(328,125)	1,102 *[6]*		(327,023)
Utility Rate Base	2,134,852	79,344	0	2,214,196

FOOTNOTES:

[1] Reflects Evidence Updates Prior to the ADR Settlement Agreement

[2] Union's 62.7 Percent Share of the $2.082 Million IT Capital Budget Reduction (1995 Level)	(661)
Impact of $150,000 Capital Budget Reduction in the Scope of the Dawn Lightning Project	(88)
Impact of $843,000 Capital Budget Reduction in 1996 for Mains Replacement Due to Leakage/ Road Work	(843)
Impact of $285,000 Capital Budget Reduction for Office Furniture	(144)
Impact of Deferral of In-Service Date of Port Elgin Distribution Project to January 1998	(311)
Impact of Capital Budget Reductions for Vehicle Refueling Appliances--$293,000 in 1996, $140,000 in 1997	(364)
Impact of Union's 74 Percent Share of the $1.1 Million Rate Base Reduction in the Joint BIS Project	(886)
	(3,297)

[3] Impact of Union's 62.7 Percent Share of the $2.082 Million IT Capital Budget Reduction	55
Impact of $150,000 Capital Budget Reduction in the Scope of the Dawn Lightning Project	1
Impact of $843,000 Capital Budget Reduction in 1996 for Mains Replacement Due to Leakage/ Road Work	11
Impact of $285,000 Capital Budget Reduction for Office Furniture	4
Impact of Deferral of In-Service Date of Port Elgin Distribution Project to January 1998	52
Impact of Capital Budget Reductions for Vehicle Refueling Appliances--$293,000 in 1996, $140,000 in 1997	10
Impact of Union's 74 Percent Share of the $1.1 Million Rate Base Reduction in the Joint BIS Project	74
	207

[4] Reflects Adjustments to O&M Expenses and Cost of Gas	(35)
[5] Inclusion of Finance Program in Regulated Activities	81,367
[6] Average Deferred Taxes on Union's Rental Program--Adjusted to Flow Through Basis	1,102

UNION GAS LIMITED
CAPITALIZATION AND COST OF CAPITAL
For The Year Ending December 31, 1997
($ 000's)

PER COMPANY
[1]

	Capital Structure	Ratios	Cost Rate	Return Component	Return
Medium-Term and Long-Term Debt	1,241,605	58.16%	10.19%	5.93%	126,520
Short-Term Debt	58,677	2.75%	6.42%	0.17%	3,767
Preference Capital	98,046	4.59%	6.88%	0.32%	6,746
Common Equity	736,524	34.50%	12.75%	4.40%	93,907
Total	2,134,852	100.00%		10.82%	230,940

PER BOARD

	Capital Structure	Ratios	Cost Rate	Return Component	Return
Medium-Term and Long-Term Debt	1,241,605	56.07%	10.19% *[2]*	5.71%	126,520
Short-Term Debt	121,718	5.50%	4.45% *[3]*	0.24%	5,416
Preference Capital	98,046	4.43%	6.88%	0.30%	6,746
Common Equity	752,827	34.00% *[5]*	11.00% *[4]*	3.74%	82,811
Total	2,214,196	100.00%		9.99%	221,493

FOOTNOTES:

[1] Reflects Evidence Updates Prior to the ADR Settlement Agreement

[2] Reflects Board Approval of the Reduction Supported in the ADR Agreement

[3] Reflects Reductions in the Short-Term Debt Costs From Those Supported In the ADR Agreement Resulting From the Interest Rate Update Filed by Union.

[4] Reflects 50 Basis Point Reduction From the 11.50 Percent Supported in the ADR Agreemen

[5] Reflects Board Approval of the Common Equity Ratio Supported in the ADR Agreement

TAB 9

CANADA

NATIONAL ENERGY BOARD
REASONS FOR DECISION

In the Matter of the Application Under
Part IV of the National Energy Board Act
(Rates Application)
of

TransCanada PipeLines Limited

July 1978

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INCOME TAXES

Introduction

This aspect of the application concerned the Applicant's proposal to change from the flow-through to the normalized method of calculating the income tax cost to be included in cost of service for the test year.

Under the "flow-through" method, a company includes as tax expense in a given year the income taxes payable in that year. Under the "normalized" method, the tax expense for a given year is based on accounting income, whether or not the taxes are payable in that year. Accounting income differs from taxable income primarily because straight line depreciation is used for accounting purposes while capital cost allowances are used to compute taxable income. Capital cost allowances usually exceed straight line depreciation in the early years of operation and under the normalized method income taxes are recognized as an expense in those years, even though such taxes will not be payable until future years.

The effect of normalization on non-regulated businesses is different from that on companies whose revenues are regulated through an allowable cost of service methodology.

In a non-regulated business a change in the early years from "flow-through" tax accounting to "normalized" tax accounting would not result in increased revenues, but would cause earnings after taxes to be reduced in the years immediately after the change, and increased in later years.

By contrast, for the company where revenues are regulated in the aforesaid manner, the effect of the change would usually be to cause revenues to increase in the earlier years. However, earnings after taxes would not be directly affected in those years because the increased revenues would equal the increased income tax expense in cost of service.

The recommendations of the Canadian Institute of Chartered Accountants ("CICA"), in effect, require all companies to normalize taxes with two exceptions. The Institute, in subsection 56 of section 3470 of its Accounting Recommendations dated September 1973, states:

> "The Research Committee believes that the general principles of income measurement should be the same in regulated industries as they are in other enterprises, and that the income tax allocation basis should have equal relevance. While the opinion was expressed that exemptions can only open the door to the submission of what may be considered equally valid circumstances, the Research Committee recognized that there may be rare cases where compliance with the recommendations of this Section would be inappropriate for the purpose of achieving a proper matching of costs and revenues. Two examples might be:
>
> (a) a company in the regulated utility field under the jurisdiction of an authority which allows as an element of cost in setting rates <u>only</u> the amount of taxes currently payable;
>
> (b) a company whose revenue is determined by long-term contracts under which costs incurred are reimbursed and such costs are defined to include <u>only</u> taxes payable for the period."

Another feature of normalized taxes related to regulated companies as opposed to non-regulated companies pertains to the treatment of the tax effect of past timing differences described by the Applicant as "unrecovered deferred income tax costs". Regulated companies generally seek to recover the tax effect of past timing differences through increased revenues by amortizing them in the future cost of service over a specified number of years. This feature is often referred to as "catch-up". Non-regulated companies are not in the position to do this.

1975 Application

In 1975, as part of an application for new rates, TransCanada applied to change to the method of normalized taxes, including a request for "catch-up".

That application was made at a time of great uncertainty for the gas industry when a shortage appeared to be developing and a new pricing scheme under the Petroleum Administration Act had not yet been finalized.

The decision of the Board in that case is contained in its Reasons for Decision of June 1975, page 4-8, as follows:

> "... In the circumstances of this case, and considering the situation at this particular juncture in the evolution of TransCanada, the Board is of the view that the Applicant has not presented a case sufficient to warrant a change of such significance at this time. Accordingly, TransCanada's application to normalize its tax accounting is denied."

Present Application

In this application, TransCanada requested both a change from flow-through to normalized income taxes on current utility income, and a "catch-up" of the unrecovered deferred income tax costs arising from the prior use of flow-through tax accounting for utility income over an amortization period of 22.25 years - the anticipated period of its removal permit for gas from Alberta.

The Applicant also proposed to allow a credit in cost of service of 8.80 per cent (the embedded cost of debt) of the average balance of income taxes recovered but not paid during the test year. However, to the extent that TransCanada could invest these funds and earn a return equivalent to that on the rate base, the equity shareholders would benefit from the difference or "wedge" between the rate of return on rate base of, say, 10.9 per cent and the cost of embedded debt of, say, 8.80 per cent.

The proposed change from flow-through to normalization with "catch-up", and its subsequent effect on rate design, was the most contentious issue in the hearing. It was clear that the main burden of the change, if allowed, would fall on the producers because the method of pricing Alberta natural gas for domestic purposes is based on a single Toronto reference price and this shelters distributors in the Eastern Zone from the effect of a change.

In general, two Ontario distributors supported the change to normalized tax accounting; producers, Saskatchewan Power, IGUA and provincial governments opposed it.

The evidence on the effect of the change was not basically in dispute, although certain parties questioned the effect on the valuation of assets caused by using up capital cost allowances in excess of depreciation.

The evidence related mainly to the economic impact of the change, the effect on TransCanada's ability to raise new capital on favourable terms, and professional accounting views on cost incurrence, and matching of costs and revenues.

The approximate effect on the imputed Alberta border price in the test year of the change to normalized taxes was said to be two cents per Mcf and a further two cents if the "catch-up" feature were included. The effect in later years could increase to nine cents, subsequently declining to zero and reversing.

The economic arguments against normalization of taxes focussed on the disincentive to producers and the conflict with the government policy of moving towards self-reliance in energy. This policy, it was claimed, would be impeded because less money would be available to producers for exploration, funds would be transferred from a higher risk sector (exploration) to a lower risk sector (pipeline), and tax would be paid before it needed to be paid.

On the ability to raise new capital, TransCanada pointed out that it was competing for capital with other companies, virtually all of which were on a normalized tax basis, and that a normalized tax basis would improve interest coverage ratios. Thus, by making it easier to attain an "A" bond rating from international rating agencies, TransCanada's ability to obtain financing in the United States and international money markets would be enhanced and the cost of future borrowing reduced. It was also indicated that TransCanada's need for external financing exceeded the additional cash generated by normalized taxes but that, absent major new projects, financing could be accommodated by traditional means. Several potential major new investments were identified, but in the prevailing circumstances no forecast of future outlays could be relied on with any degree of certainty.

The professional accounting views focussed on the measurement of periodic income and costs. It was clear that the CICA would like all companies as a matter of principle to use the normalized (tax allocation) method of accounting for income taxes. The evidence indicated that in regulated companies the use of either the normalized or the flow-through methods of accounting for income taxes conforms with the principle of matching costs and revenues. Therefore, that principle was not a determinant factor in this proceeding. Of more relevance was the ascertainment of appropriate costs to be included in the cost of service, since revenues developed in rate design are made equal to the allowable cost of service.

There was agreement among accounting witnesses that the provision for income taxes for non-regulated companies was attributable to "accounting" profit and was a cost incurred in the period in which the relevant profits were earned. Likewise, when the regulator recognized deferred taxes as a cost to be included in cost of service for determining rates, accountants recognized those taxes as a cost incurred in the period concerned.

There was less certainty on the CICA's position when a regulated company changed from flow-through to normalized taxes: the CICA's Handbook does not refer to the "catch-up" feature of deferred tax liability in the specific circumstances of regulated companies.

Several intervenors referred to the recent decision of the Board (1) on income taxes of Westcoast and pointed out that the case for a change in the method of tax accounting was not as compelling for TransCanada compared with the Westcoast situation, both with regard to normalized tax accounting and to the "catch-up" feature.

(1) "National Energy Board Reasons for Decision... May 1978"

Views of the Board

Since the first rate case, TransCanada's rates and tolls have been regulated by the Board on a "cost-based" approach, by which a cost of service is determined for a test year, and then used to determine the total revenue requirements of the company as the basis for the design of rates and tolls. Of necessity, this approach raises the question of what is the appropriate basis for the recognition of costs to be included in the cost of service for rate-making purposes. In dealing with this issue, the Board has generally been guided by professional accounting standards, although the Board recognizes that such accounting standards are not binding upon it for rate-making purposes. The Board must be guided by the standard of what method of cost recognition is the most appropriate for rate-making purposes. The considerations relevant to that issue would vary with the nature of the particular item of expenditure being considered and the overall circumstances surrounding the operations of the particular company being regulated. There are within TransCanada's existing cost of service certain items which do not constitute actual cash out-lays by the company in the test period. An example of this type of item is the allowance for depreciation included in the cost of service. On the cash basis of accounting, the cost of an asset acquired would be charged against income in the year of acquisition. For a regulated company, that would mean that the entire cost of the asset would be charged in the tolls in one year, even though the asset would be used over several years. Under the accrual and deferral accounting approach, the cost of an asset is charged proportionately in the tolls charged for each year over the service life of the asset. The latter approach has been applied by the Board for rate-making purposes because it results in a more equitable allocation of the cost of an asset between the various customers obtaining the use of that asset, and recognizes the value of that asset over its service life.

The flow-through method of accounting for income taxes is in effect a cash basis of accounting for income taxes. By reason of the higher rates of capital cost allowance permitted for income tax purposes, the flow-through approach tends to delay the incidence of income taxes in the earlier years of a company's operations, even though the rates and tolls, as in TransCanada's case, have been based upon the lower levels of booked depreciation rather than the higher levels of capital cost allowance permitted in those years for income tax purposes. The effect of this is to place a greater burden upon users of the pipeline system in the later years. In effect the change to normalized tax accounting spreads the incidence of future tax more evenly over the remaining life of the pipeline. It appears to the Board that a greater equity is achieved as between various users over the remaining life of the pipeline if depreciation and income taxes are reflected in the tolls from year to year upon the same basis, rather than on two different bases.

The Board recognizes that a change to normalized taxes would reduce the funds available to producers. The significance of such a change is less clear because 30-45 per cent of the additional funds paid to producers under the flow-through system is paid by them as royalties, and all the remaining funds after taxes are not necessarily reinvested in exploration in Canada. Furthermore, the effect on the producers of implementing normalized taxes by TransCanada should be set in the perspective of changes in natural gas prices over the past, say, three years. The pricing structure under the PAA has been in effect since November 1975 and the flow-back to TransCanada's producers has increased from approximately 64 cents per MMBtu's in October 1975, to $1.57 in March 1978. A further increase results because the increase in the Toronto Reference Price of 15 cents per MMBtu's, announced since the hearing closed, exceeds the increase in average transmission costs per MMBtu from Alberta to the Eastern Zone as determined in these proceedings. These increases need to be compared with the effect of a change by TransCanada to normalized taxes in the test year of two cents per MMBtu's and a further two cents if the "catch-up" factor is included.

In the Board's view, the export price of $2.16 U.S. per MMBtu's in conjunction with the new domestic price of $2.00 per MMBtu's at the Toronto city gate is adequate to permit the recovery of the full cost of service of TransCanada including normalized taxes, and also provide adequate net backs to producers. Moreover, in the Board's view, the change to normalized tax accounting should not cause a significant disincentive to continued exploration and development.

Canada is committed to the aim of achieving self-reliance in relation to energy. Natural gas plays a central role in this regard because of the relative importance of this form of energy in Canada. Natural gas developments will be important in the future and such developments should include the whole natural gas system from exploration, development and production to transmission and distribution.

In order to be financially prepared for possible future projects, it is important that the transmission companies too have ready access to capital markets with favourable ratings and at favourable interest rates. Allowing TransCanada to collect current normalized income taxes should contribute to this objective.

After giving consideration to all relevant circumstances, the Board has concluded that it would be more appropriate to use the normalized method of calculating income taxes as the basis for recognizing the income tax cost to be included in TransCanada's cost of service for rate-making purposes.

The Board has also concluded that the Applicant's proposal to include in cost of service a credit allowance on the average balance of income taxes recovered but not paid in the test year is not the most appropriate method, under the present circumstances. In lieu of that method, the Board has found that the average of the deferred tax balances in the test year should be deducted from the rate base.

The Board recognizes that the case of TransCanada for full recovery of costs, including normalized and "catch-up" taxes, was substantially different from that of Westcoast, primarily because of the smaller proportion of exports transmitted by TransCanada. For this reason, and taking into account the need for continued stimulus to the exploration and development sector, the Board has decided not to allow the amortization of the past deferred tax liability ("catch-up" taxes) in the cost of service. In making this decision, the Board has recognized that either the Company would need to revert to flow-through tax accounting when taxes payable exceed normalized taxes, or the deferred tax liability will have to be amortized in the cost of service starting at some point after the end of the test year.

NEB Adjustments re Income Taxes

The adjustments shown in Chapter 6 are explained as follows:

Income Taxes - Amortization - $23,342,185

The deletion of this amount from the test year cost of service was required as a result of the Board's decision not to allow "catch-up" taxes.

Income Taxes - Current - $8,392,677

The Board has recalculated the current normalized taxes taking into account all adjustments to cost of service including return on rate base, to be $68,341,480.

The adjustment shown above represents the difference between the Applicant's figure of $76,734,157 and the Board's recalculation.

In its recalculation, the Board has followed the general methodology used by the Applicant, but in addition calculated the amount for deferred taxes to be deducted from rate base, a calculation not provided by the Applicant because of its proposed 8.8 per cent credit allowance.

Calculation of Income Taxes Payable in 1978

TransCanada is expected to become liable for income taxes in the calendar year 1978, and a calculation was therefore required of the amount of income taxes applicable to the seven-month period before the test year begins on 1 August 1978 and to the five-month period afterwards. Such a calculation was necessary to estimate the amounts for each of the components of the normalized taxes for the test year, namely, the taxes payable and the deferred taxes components.

TransCanada used a method of calculating taxable income on a monthly basis for the first seven months of 1978 which utilized capital cost allowances and prior year losses to the extent required to reduce the taxable income to zero for that period. This resulted in no income tax being considered payable until after the start of the test year. This approach was justified by the Applicant on the grounds that its regulated revenues for the first seven months did not include a component for income taxes.

The Canadian Petroleum Association ("CPA") questioned that method, suggesting that the estimated taxes payable for the calendar year 1978 should be prorated on an equal monthly basis and that under its method there might be taxes payable for the period in 1978 prior to the beginning of the test year. However, such taxes could not be collected through the existing rates which contained no provisions for income taxes, thus creating an apparent conflict with the previous CPA position on flow-through taxes that all taxes would be recoverable through rates.

The CICA's Handbook does not deal specifically with the situation outlined above, but neither the TransCanada nor the CPA method appeared to be in conflict with sound accounting principles.

Because of the desirability of matching costs and revenues, the Board has accepted the method proposed by TransCanada.

RATE BASE

TransCanada's proposed rate base was submitted as being the average projected utility investment (exclusive of investment in Alberta) for the test period 1 August 1978 to 31 July 1979. The Board has adjusted the rate base for the reasons indicated in this Chapter, as follows:

RATE BASE

	Application As Filed	Application As Revised*	NEB Adjustments	Authorized by NEB
Gross Plant	$1,732,320,983	$1,728,159,189	$ (2,211,716)	$1,725,947,473
Accumulated Depreciation	(413,016,148)	(412,958,924)	30,412	(412,928,512)
Contributions in aid of Construction	(1,491,884)	(1,491,884)	-	(1,491,884)
Net Gas Plant	$1,317,812,951	$1,313,708,381	$ (2,181,304)	$1,311,527,077
Working Capital	37,692,935	39,788,307	1,167,984	40,956,291
Unamortized Owning Costs	626,870	626,870	-	626,870
Deferred Charges: Northern Projects	35,451	35,451	-	35,451
	$1,356,168,207	$1,354,159,009	$ (1,013,320)	$1,353,145,689
Average Deferred Income Taxes	-	-	(6,475,429)	(6,475,429)
Total Rate Base	$1,356,168,207	$1,354,159,009	$ (7,488,749)	$1,346,670,260

* This column incorporates revisions to the application made by TransCanada based on matters raised in the course of the hearing.

Net Gas Plant

The following adjustments have been made:

Gross Plant

Additions to plant in test year	($2,211,716)

Accumulated Depreciation

Additions to plant in test year	30,412
Net Adjustment	($2,181,304)

These adjustments are explained as follows:

(a) Additions to Plant in Test Year

TransCanada included additions to transmission plant amounting to $104,369,456 in its application. An analysis of the information submitted in response to the CPA request showed that the above amount included Class "C" construction items, other than pipe replacements, rerating and requalifications, amounting to $26,249,834. Of that amount, "Class "C" items worth $5,331,372 were to be placed in service during 1978 and $79,167 in 1979.

In the experience of the Board, TransCanada has rarely spent the amounts authorized in connection with its Class "C" applications. Furthermore, the evidence in this hearing revealed that in 1977 the Applicant spent only 68 per cent of the amount approved for its 1977 Class "C" facilities. Based on its review of the Applicant's history and the evidence in this case, the Board has disallowed $2,132,549 of the Class "C" (Other) items proposed to be placed in service during

1978 (40 per cent of $5,331,372), and in addition has disallowed $79,167 of Class "C" (Other) items which were projected to be placed in service near the end of the calendar year 1979. The total of these two adjustments amounts to ($2,211,716).

(b) Accumulated Depreciation

As a result of the disallowance of $2,211,716 of Class "C" items as additions to plant the Board has reduced annual depreciation by $60,822 and accumulated depreciation (average) by $30,412.

(c) Rerating Costs

Some intervenors argued that TransCanada would fail to use, during the test year, the extra capacity resulting from the rerated facilities. They held that the entire rerating cost or at least part of it (approximately $10.2 million) should have been deleted from the test year rate base.

The Board recognized that there will be a fuel saving of up to 1.9 Bcf per year as a result of the increased operating pressure, even if there were no increase in throughput as a consequence of the rerated facilities.

The Board has accepted TransCanada's final argument that an amount of $4,161,794 as part of the rerating cost should be reduced from the addition to gross plant for the test year. The reduction of $4,161,794 from $18,034,439 was due to the postponement of the completion of the rerating program and was reflected in the Applicant's revised amounts.

Working Capital

The following summary shows the amounts authorized by the Board as the Applicant's working capital:

	Application As Revised	NEB Adjustments	Authorized by NEB
Cash	$ 6,981,251	$ (125,433)	$ 6,855,818
Materials and Supplies	13,086,602	-	13,086,602
Transmission Line Pack	13,618,754	1,811,179	15,429,933
Prepayments and Deposits	554,250	-	554,250
Transmission by Others - Average Unamortized Deferrals	5,547,450	(517,762)	5,029,698
	$ 39,788,307	$ 1,167,984	$ 40,956,291

The NEB adjustments shown are explained as follows:

(a) Cash

Cash working capital in previous TransCanada rate cases has been established as one-eighth of operations and maintenance expense after deducting fuel costs and miscellaneous gas usage costs and eliminating certain non-cash items. The Board in this case continues the previously established method for determining working capital.

The adjustment of $(125,433) reflects 1/8 of the adjustments to the following items in Chapter 4:

Reduction of Salaries and Fringe Benefits	$ 370,480
Reduction of Transmission expenses	602,183
Reduction of Rent	30,801
	$ 1,003,464
Adjustment: 1/8 of 1,003,464	$ 125,433

(b) Transmission Line Pack

The Applicant projected the average value of transmission line pack to be $13,618,754 for the test year. This was based on a volume of 11.0 Bcf of gas with an average heating content of 995 Btu/cf and an imputed Alberta border price of $1.24429/MMBtu's (11,000,000 x .995 x $1.24429). The average heating value and the imputed Alberta border price used above were those as revised by the Applicant during the hearing.

The Board has adjusted transmission line pack to reflect the new Alberta border price of $1.40977/MMBtu's resulting in an increase of $1,811,179. (Refer to Gain on Revaluation of Transmission Line Pack in Chapter 4 of these Reasons.) The calculation of the imputed Alberta border price is shown on Appendix V.

(c) Prepayments and Deposits

TransCanada projected the average balance of prepayments and deposits to be $554,250 for the test year. The largest component of this amount was prepaid insurance and the Applicant explained it was derived by calculating the average of the monthly balances in the test year. The required normalization adjustment of $334,979 is the difference between $554,250 and the 31 October 1977 balance of $219,271.

An intervenor questioned the adjustment, suggesting the Applicant should have added one-twelfth of the projected increase in the test year insurance premiums to the base year average.

In past TransCanada rate cases the accepted method of calculating prepayments and deposits has been to project the base year closing balance as the average for the test year.

The Board acknowledges that in this application the balance at 31 October 1977 was not representative of the yearly average and, because the balance can vary widely from month to month, the Board has therefore accepted the projected prepayments and deposits used by the Applicant.

(d) Transmission by Others - Average Unamortized Deferral

The Applicant included in working capital its average investment in the unamortized balance during the test year. (The balance in the account at the beginning of the test year is reduced to zero by the end of the test year.)

The total investment represented the accumulation of monthly variances between the actual charges by Great Lakes and Union and the amounts provided therefore in the Applicant's authorized rates, plus monthly carrying charges, over the period 1 September 1976 to 31 May 1978, plus further carrying charges from 1 June to 31 July 1978.

For reasons outlined in the Cost of Service chapter the Board has disallowed the accumulated carrying charges to 31 July 1978 from cost of service ($1,035,525). At the same time the Board has allowed the actual variances from 1 September 1976 to 31 May 1978, totalling $10,059,375, in the cost of service for the test year.

However, as the Applicant would only recover the $10,059,375 gradually in its rates over the test year, the Board has found it reasonable to allow the average unamortized amount ($5,029,688) exclusive of carrying charges, in rate base. The adjustment of ($517,762) deleted the amount for carrying charges which the Applicant had included in its rate base.

Average Deferred Income Taxes ($6,475,429)

In the Income Taxes chapter of these Reasons the Board has decided to deduct the average amount of income taxes deferred in the test year from rate base, in lieu of the treatment proposed by the Applicant, viz. inclusion of a credit amount in its provision for income taxes of 8.8 per cent of the average balance of income taxes expected to be recovered in the test year cost of service but not paid during that year.

For further explanations see Chapter 2.

TAB 10

CANADA

NATIONAL ENERGY BOARD

REASONS FOR DECISION

In the Matter of the Application Under
Part IV of the National Energy Board Act
(Rates Application)

of

TransCanada PipeLines Limited

July 1979

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APPENDICES

I - Hearing Order RH-1-79

II - Order No. TG-2-79

III - Order No. TG-3-79

IV - Comparison of Components of Rate of Return and Interest Coverage Previously Authorized, Applied for, and Approved.

V - Functional Distribution and Classification of Authorized Cost of Service.

VI - Derivation of the Imputed Alberta Border Price.

VII - Board Letter re Retirement of Corroded Pipe.

RATE BASE

TransCanada's proposed rate base was submitted as being the average projected utility investment (exclusive of investment in Alberta) for the test period 1 August 1979 to 31 July 1980. The Board has adjusted the rate base for the reasons indicated in this Chapter, as follows:

RATE BASE

	Application As Filed	Application[1] As Revised	NEB Adjustments	Authorized by NEB
Gross Plant	$1,798,931,073	$1,799,169,037	$(18,393,843)	$1,780,775,194
Accumulated Depreciation	(450,296,081)	(452,599,388)	348,838	(452,250,550)
Contributions in aid of Construction	(2,019,332)	(2,019,332)	-	(2,019,332)
Net Gas Plant	$1,346,615,660	$1,344,550,317	$(18,045,005)	$1,326,505,312
Working Capital	39,563,800	39,431,306	312,314	39,743,620
Average Deferred Income Taxes	(12,075,660)	(12,702,857)	(24,272)	(12,727,129)
Other Deferred Costs	2,337,798	4,026,401	(1,341,315)	2,685,086
Total Rate Base	$1,376,441,598	$1,375,305,167	$(19,098,278)	$1,356,206,889

Notes: (1) This column incorporates revisions to the application made by TransCanada based on matters raised in the course of the hearing.

(b) Transmission Line Pack

The Applicant projected the average value of transmission line pack to be $16,751,166 during the test year based on an imputed Alberta border price of 138.493¢/GJ as revised during the hearing by TransCanada.

The Board has adjusted transmission line pack to reflect the new imputed Alberta border price of 141.297¢/GJ resulting in an increase of $339,153. The derivation of the new imputed Alberta border price is shown in Appendix VI.

Average Deferred Income Taxes

The amount of average deferred income taxes deducted from rate base is $12,727,129. The calculation of this amount is shown in the Income Taxes section of Chapter 4 of these Reasons for Decision.

Other Deferred Costs

In its Reasons for Decision of July 1978, the Board permitted the inclusion in TransCanada's rates of an amount of $68,341,480 on account of current normalized income taxes. After re-examining the derivation of that amount, the Board, in an addendum to those Reasons, increased the provision for current normalized income taxes by $2,580,602 and ordered TransCanada to record monthly in a deferral account, one-twelfth of that amount plus carrying costs equal to one-twelfth of the prime commercial bank rate plus one percent. (See Order Nos. AO-1-TG-2-78 and AO-2-TG-2-78.)

Depreciation

Depreciation of fixed assets was included in cost of service, as revised, at rates previously authorized by the Board. The amount projected by the Applicant has been reduced by $552,618 to reflect the removal by the Board from rate base of various items of gross plant. (See Chapter 2, Gross Plant, page 2-2.)

Income Taxes

(a) Calculation of Income Taxes

In its July 1978 Decision, the Board concluded that it would be more appropriate to use the normalized method of calculating income taxes as the basis for recognizing the income tax cost to be included in TransCanada's cost of service for rate making purposes.

During the course of the 1979 Hearing, the Canadian Petroleum Association presented evidence advocating that the flow-through method should be employed by TransCanada as a basis for determining the income tax cost to be included in the cost of service and that the Board should require the Applicant to revert to this method.

Having given consideration to the arguments advanced in this connection, the Board concludes that the evidence presented did not raise arguments that had not been considered in its previous decision. For this reason, and given no significant change in circumstances since 1978, the Board sees no reason to vary that decision.

The calculations of normalized income taxes, income taxes payable and average deferred income taxes for the test year are set forth hereunder. Board adjustments to the Applicant's calculations of normalized and current income taxes payable reflect the rate base and rate of return allowed in this decision. Board adjustments of items other than operating income are explained in the footnotes to the normalized tax calculation.

Normalized Income Taxes For The Test Year

	Application As Revised	Per NEB	
Operating Income	$154,309,240	$147,826,551	
Allowance For Funds Used During Construction	1,652,000	1,652,000	
Total Income Before Financial Charges	$155,961,240	$149,478,551	
Financial Charges (Including those allocated by the Applicant to non-utility investment)	(69,907,176)	(70,216,770)	(1)
Adjustment to Financial Charges to Exclude those allocated by the Applicant to non-utility investment	1,310,010	-	(2)
Total Financial Charges	$(68,597,166)	$(70,216,770)	
Net Income Before Adjustments for Permanent Differences	$ 87,364,074	$ 79,261,781	
Permanent Differences:			
Eligible Capital Expenditures	(127,701)	(127,590)	(3)
Non Allowed Portion of Amortization of Debt Discount and Expense	1,692,505	1,691,050	(3)
Capital Loss	105,150	-	(4)
Inventory Allowance	(548,378)	(554,323)	(5)
Normalized Utility Income After Tax	$ 88,485,650	$ 80,270,918	
Normalized Income Taxes (at 50.01%)	$ 88,521,051	$ 80,303,033	

Notes:

(1) Reflects increased unfunded debt (adjusted to compensate for the decreased equity return and increased average deferred tax balance) and a minor difference in the Alberta allocation factor applied.

(2) Dividend income received from non-utility investment is not subject to tax and this adjustment is disallowed as was the case in the previous N.E.B. decision.

(3) Differences due to a minor difference in the Alberta allocation factor applied arising from Board adjustments to the rate base.

(4) Disallowed, as net capital losses in a current period are only applicable to capital gains realized in future periods.

(5) Difference due to increase in the imputed Alberta border price.

Income Taxes Payable For The Test Year

	Application As Revised	Per NEB
Normalized Utility Income After Tax	$ 88,485,650	$ 80,270,918
Normalized Income Taxes	88,521,051	80,303,033
Normalized Utility Income Before Tax	$177,006,701	$160,573,951
Adjustments:		
Amortization and Depreciation	$ 54,227,000	$ 54,227,000
Deferred Normalized Income Taxes	2,682,630	2,682,630
Allowance For Funds Used During Construction	(1,652,000)	(1,652,000)
Overhead Costs Capitalized	(6,367,946)	(6,367,946)
Capital Cost Allowance	(65,982,782)	(65,982,782)
Total Adjustments	$(17,093,098)	$(17,093,098)
Taxable Income	$159,913,603	$143,480,853
Income Taxes Payable (at 50.01%)	$ 79,972,793	$ 71,754,775

Average Deferred Income Taxes For The Test Year

	Application As Revised	Per NEB
Normalized Income Taxes	$ 88,521,051	$ 80,303,033
Income Taxes Payable	(79,972,793)	(71,754,775)
Income Taxes Deferred	$ 8,548,258	$ 8,548,258
Deferred Income Tax Balance at 1 August 1979	8,453,000	8,453,000
Deferred Income Tax Balance at 31 July 1980	$ 17,001,258	$ 17,001,258
Average Deferred Income Taxes for the Test Year	$ 12,702,857	$ 12,727,129 (1)

Note:

(1) $$\frac{\text{Beginning Deferred Tax Balance + Ending Deferred Tax Balance}}{2}$$

$$= \frac{\$8,453,000 + \$17,001,258}{2} = \$12,727,129$$

(b) Deferral Account for Reassessed Income Taxes

TransCanada included in its application a request for a deferral account in respect of income taxes which may result from a reassessment by the Department of National Revenue, Taxation. During the hearing, the Applicant stated that the Company will be reassessed for the 1978 taxation year. Since this is the first year that TransCanada has paid income taxes, this reassessment could include amounts that might be disallowed with respect to previous years. Neither the amount nor the timing of the reassessment were predictable at the time of the hearing.

While there might be grounds for the use of a deferral account for taxes payable on reassessment with respect to the years the Company was on the flow through basis of calculating income taxes, there was no evidence that the expected reassessment would result in any additional taxes that would be payable if the Company were still on a flow-through basis. In view of these considerations and the fact that TransCanada is currently collecting normalized income taxes in its rates, the Board is not satisfied that the need for such a deferral account has been established. This request is, therefore, denied.

Miscellaneous Deferred Items

The Board has included in miscellaneous deferred items an amount of $2,223,658, representing the Applicant's estimate of costs for electronic pigging and associated pipe replacements during the period 1 May 1979 to 31 July 1979. (See Chapter 2, Gross Plant, page 2-8.)

Other Operating Income

The Board's adjustment of ($33,390) to the Applicant's calculation of other operating income for the test year was necessary to reflect increased revenue from the sale of delivery pressure arising from the change in the imputed Alberta border price.

TAB 11

CANADA

NATIONAL ENERGY BOARD

REASONS FOR DECISION

In the Matter of the Application Under
Part IV of the National Energy Board Act
(Rates Application)

of

TransCanada PipeLines Limited

AUGUST 1980

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VI - Functional Distribution and Classification of Authorized Cost of Service

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CHAPTER 2

RATE BASE

TransCanada's proposed rate base was submitted as being the average projected utility investment (exclusive of investment in Alberta) for the test period 1 August 1980 to 31 July 1981. The Board has adjusted the rate base for the reasons indicated in this Chapter, as follows:

TABLE I

RATE BASE

	Application (1)	Application As Revised (2)	NEB Adjustments	Authorized by NEB
Gross Plant	$1 887 464 067	$1 886 114 229	$(8 579 958)	$ 1 877 534 271
Accumulated Depreciation	(497 069 579)	(497 034 510)	104 643	(496 929 867)
Contributions in Aid of Construction	(1 908 409)	(1 908 409)	-	(1 908 409)
Net Gas Plant	$1 388 486 079	$1 387 171 310	$(8 475 315)	$ 1 378 695 995
Working Capital	45 817 879	46 301 203	1 361 781	47 662 984
Average Deferred Income Taxes	(11 229 279)	(12 076 840)	(14 955 578)	(27 032 418)
Other Deferred Costs	2 733 985	2 733 985	-	2 733 985
Total Rate Base	$1 425 808 664	$1 424 129 658	$(22 069 112)	$ 1 402 060 546

(1) As amended in the course of the proceedings to exclude a request for Orders fixing the just and reasonable rates or tolls for transportation services to Consolidated, ProGas and Sulpetro for exports and excluding the construction of the associated facilities.

(2) Incorporates revisions to the amended application made by TransCanada based on matters raised in the course of the hearing.

Net Operation and Maintenance Expense (Per Applicant)	$79 664 312
Reduction in Salaries and Benefits	(2 075 956)
Increase in Allocation of Indirect Expenses	(63 341)
Net Operation and Maintenance Expense (Per NEB)	$77 525 015
1/10 of Net Operation and Maintenance Expense (Per NEB)	$ 7 752 501
1/8 of Net Operation and Maintenance Expense (Per Applicant)	9 958 039
NEB Adjustment	$(2 205 538)

(b) Transmission Line Pack

During the hearing, the Applicant revised the projected average value of transmission line pack to $18 384 807 during the test year, based on an imputed Alberta border price of 150.253¢/GJ.

The Board has adjusted transmission line pack to reflect the new imputed Alberta border price of 179.408¢/GJ resulting in an increase of $3 567 319. The derivation of the new imputed Alberta border price is shown in Appendix VII.

AVERAGE DEFERRED INCOME TAXES

The average deferred income tax balance, which is deducted from rate base, will be computed in the following way:

$$\frac{2 \times \text{beginning deferred tax balance} + \text{deferred taxes for the test period}}{2}$$

As noted in Chapter 4, the Board has determined that the $15 million reassessment by Revenue Canada, Taxation will be recorded in a deferral account rather than a reduction in the deferred tax account as applied for by TransCanada. Accordingly, the Board has revised the beginning deferred tax balance upwards from the $2 750 000 contained in the Company's application to $17 750 000.

The deferred taxes for the test year will be calculated by multiplying the tax rate by the net of the timing differences employed in computing taxes payable by the Company on the applied-for basis.

These differences are shown below:

	Application As Revised	Per NEB	
Depreciation	$ 57 089 921	$ 56 859 153	(1)
Capital Cost Allowance	(89 124 000)	(88 219 560)	(1)
Overhead Capitalized	(5 016 000)	(5 016 000)	
Capital Loss Carried Forward	(745 841)	(745 841)	
Amortization of Debt Discount and Expense	275 000	---	(2)
	$(37 520 920)	$(37 122 248)	

(1) Adjusted to reflect Board Decisions in respect of plant items.

(2) The Board believes that the Company has inadvertently made an error in including this item as it was already taken into account in the normalized tax computation. In the Board's view, this amount should be excluded.

Based on all of the foregoing, the average deferred tax balance is computed below:

$$\frac{2 \times (\$17\ 750\ 000) + (\$37\ 122\ 248) \times .5001}{2}$$

$$= \frac{\$35\ 500\ 000 + \$18\ 564\ 836}{2}$$

$$= \$27\ 032\ 418$$

CHAPTER 3

RATE OF RETURN

DEEMED CAPITAL STRUCTURE

In its current application, unlike previous years where exclusive reliance was placed upon the use of actual consolidated capital structures, TransCanada submitted that a deemed capitalization should form the basis for the determination of its rate of return on rate base.

The applied-for capitalization, in conjunction with its individual and overall requested rates of return, is shown below.[(1)]

Deemed Average Capitalization for the Test Year Ending 31 July 1981

	Amount ($000)	Ratio %	Cost Rate %	Cost Component %
Debt - Funded	677 440	46.03	8.43	3.88
- Unfunded	229 366	15.59	13.00	2.03
Total Debt Capital	906 806	61.62	9.59	5.91
Preferred Share Capital	85 989	5.84	7.36	.43
Common Equity	478 783	32.54	16.00	5.21
	1 471 578	100.00		11.55

(1) In keeping with the Board's 1979 TransCanada Rate Decision, the Company excluded debt arising from its "take or pay" obligations under its gas purchase contracts.

The evidence presented indicated that the deemed capital structure approach was adopted by TransCanada as a result of the large-scale diversification program it had recently embarked upon. As it recognized that this program involves the financing of investments possessing risk characteristics significantly different from those of its utility business, TransCanada considered that it could no longer employ its consolidated capital structure for rate-making purposes. Rather, it proposed a deemed capital structure which was equal to the sum of its inside- and outside-Alberta rate bases and which possessed debt/equity characteristics essentially consistent with the Company's view of the business risks of its pipeline operations. TransCanada submitted that its approach effectively insulated the ratepayers from the costs of financing its diversification and was, therefore, supportive of its request that an amount of income tax be collected in the cost of service which would have no relation to the income tax effects of its diversification.(1)

The Board agrees that the Company's applied-for deemed capital structure serves to insulate the ratepayers from the capital costs associated with its diversification program, and considers it as efficient as might be hoped for by ratepayers in terms of a pre-tax cost of capital. The Board, therefore, approves the use of a deemed capital structure.

---

(1) See Chapter 4 - Allowable Cost of Service, Income Taxes.

The Board has noted the concerns expressed by intervenors that the ratepayers continue to be insulated from the capital costs of diversification. The onus will be on the Company to demonstrate over time that this objective has been met.

The composition of the applied-for capital structure, together with the various individual cost rates, is discussed below.

FUNDED DEBT

The funded debt component of the deemed capital structure incorporates all of the Company's existing first mortgage pipeline bonds, sinking fund debentures, and subordinated debentures. This debt is of a relatively lower cost, due to its historical nature, and is unassociated with the Company's current diversification program.

The computation of the imbedded cost rate of this debt is shown in Appendix V of this decision. This cost rate has been computed in a manner consistent with that used in the 1979 proceeding and was not at issue in the current hearing. Accordingly, the Board accepts the applied-for cost rate of 8.43 percent.

UNFUNDED DEBT

As mentioned previously, total capitalization is set equal to the total of the Company's inside- and outside-Alberta rate bases. The unfunded debt component of this capital structure is the difference between the total capital and the aggregate of the funded debt and the preferred and common equity components.

While the term "unfunded debt" normally refers to borrowings of a short-term nature and, therefore, a short-term rather than a long-term cost rate, conflicting indications were given by the Applicant's policy witnesses as to whether this component of capital was of a short- or long-term nature. The Board, for purposes of the present application, accepts that the long-term rate should be applied. CPA noted that, while one of the Company's expert financial witnesses had lowered his estimation of long-term borrowing costs by 75 basis points due to changes in the market since the application was filed, TransCanada had lowered the cost rate applied to unfunded debt by only 50 basis points, from 13.5 percent to 13.0 percent. Based on the evidence of the financial witness, as well as on the fact that the proposed unfunded debt rate was stated by the Company to include an estimated allowance for flotation costs, the Board has decided that a cost rate of 12.75 percent is reasonable.

PREFERRED EQUITY

The Company allocated all of its outstanding preferred share equity to the capital structure deemed to support its pipeline operations. This capital pre-dated the current diversification program, and the applicable cost rate was calculated in a manner consistent with prior applications. The Board, therefore, accepts the applied-for cost rate of 7.36 percent in the test year.

COMMON EQUITY

(a) Deemed Common Equity Ratio

As mentioned earlier, the stated objective underlying TransCanada's use of a deemed capital structure was to provide an appropriate basis for the determination of a rate of return on rate base assets which would not be affected by the costs of financing the diversification and which, at the same time, would be consistent with the business risks of its pipeline operations.

A key element in this process was the selection of an appropriate common equity ratio. Based upon an analysis of the business risks confronting the pipeline operations, the Company's expert witnesses asserted that an equity ratio in the 30 to 35 percent range was appropriate for the pipeline operations, given the practical constraints imposed by the capital markets. As a matter of judgement, the Company selected the mid-point of that range and applied for a common equity ratio of 32.5 percent.

An expert witness for CPA agreed with this assessment. However, when questioned as to whether it would be inappropriate to select the lower limit rather than the mid-point of the 30 to 35 percent range, the witness expressed the opinion that such a choice would not have any adverse affects upon the Applicant's access to capital markets. The Applicant did not challenge this position in final argument.

After giving careful consideration to all of the evidence, particularly to the business risks faced by the utility operation, the Board considers that an equity ratio in the lower end of the range is warranted. Accordingly, the Board has decided that it is appropriate to use a deemed common equity ratio of 30 percent.

(b) Rate of Return On Common Equity

TransCanada applied for a rate of return on common equity of 16 percent. Citing the situation prevailing at the time of the 1979 TransCanada Rate Hearing, the Company supported this request by placing primary emphasis on the increased financial risk implicit in the reduced percentage of common equity, together with the increased opportunity costs reflected in its estimates of the earnings rates prospectively available on fixed income securities and the common equity of unregulated industrials during the test period.

The Company's witnesses argued that it would be inappropriate to use a Discounted Cash Flow ("DCF") method to establish the investor's required rate of return on common equity because, among other things, TransCanada is now a diversified operation and such a method would reflect the cost of common equity capital of the consolidated operation and not just that of the Company's pipeline operations. Accordingly, these witnesses sought to measure the cost of common equity capital primarily through the comparable earnings technique or by reference to the book earnings of groups of non-regulated industrial companies which they felt possessed a level of investment risk similar to that of TransCanada's pipeline operations.

In contrast, CPA's expert witness asserted that the DCF method represented a more appropriate measure of the investor's required rate of return due to, among other things, flaws in the income measurement process which are reflected in the book earnings figures employed in the comparable earnings technique. This witness overcame the shortcoming inherent in the DCF method, where a regulated Company has unregulated activities, by applying this method indirectly to a group of non-regulated industrials selected on the basis of similarity in investment risk. As a result of this process, the witness recommended a rate of return on common equity of 14.25 to 14.75 percent.

The determination of a fair and reasonable rate of return on common equity involves the use of methods which are, of necessity, indirect and subject to the exercise of judgement. Having regard to all of the evidence submitted, the

Board finds 15 percent to be a fair and reasonable rate of return on the deemed common equity.

RATE OF RETURN ON RATE BASE

Based upon its findings in this case, the Board has decided that a return on rate base of 11.10 percent is fair and reasonable. The derivation of this rate of return is given in the deemed capital structure presented below.

	Amount ($000)	Ratio %	Cost Rate %	Cost Component %
Debt - Funded	677 440	46.46	8.43	3.92
- Unfunded	257 268	17.64	12.75	2.25
Total Debt Capital	934 708	64.10	9.62	6.17
Preferred Share Capital	85 989	5.90	7.36	.43
Common Equity Capital	437 442	30.00	15.00	4.50
	1 458 139	100.00		11.10

NOTE: The above total capitalization reflects both the inside- and outside-Alberta rate bases, as adjusted for the new inputed Alberta border price, as well as other adjustments to the outside-Alberta rate base made by the Board.

TAB 12

CANADA

NATIONAL ENERGY BOARD
REASONS FOR DECISION

In the Matter of the Application under
Part IV of the National Energy Board Act
(Rates Application)

of

TransCanada PipeLines Limited

Phase I

August 1981

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CHAPTER 3

RATE BASE

TransCanada's proposed rate base, as submitted, was the average projected utility investment (exclusive of Alberta) for the test period 1 July 1981 to 30 June 1982. For the reasons indicated below, the Board has adjusted the test year rate base in the following manner:

Rate Base

Test Year 1 July 1981 to 30 June 1982

	Application (1)	Application (2) As Revised	NEB Adjustments	Authorized by NEB
Gross Plant	$ 2,175,306,934	$ 2,129,826,920	$ (5,601,583)	$ 2,124,225,337
Accumulated Depreciation	(545,625,642)	(544,749,524)	45,475	(544,704,049)
Contributions in Aid of Construction	(4,616,958)	(4,616,958)	-	(4,616,958)
Net Gas Plant	$ 1,625,064,334	$ 1,580,460,438	$ (5,556,108)	$ 1,574,904,330
Working Capital	54,456,419	54,734,220	296,726	55,030,946
Average Deferred Income Taxes	(42,324,733)	(42,681,656)	(1,811,814)	(44,493,470)
Other Deferred Costs	(2,392,858)	(2,392,858)	2,312,500	(80,358)
Total Rate Base	$ 1,634,803,162	$ 1,590,120,144	$ (4,758,696)	$ 1,585,361,448

Notes: (1) Application dated 27 February 1981 as updated by TCPL letter dated 23 June 1981.

(2) Application as revised by TCPL letter dated July 22, 1981 to incorporate various changes based on matters raised during the hearing.

Net Operation and Maintenance Expense (per Applicant)	$93,592,655
Reduction in Salaries and Benefits	(215,013)
Net Operation and Maintenance Expense (per NEB)	$93,377,642
1/10 of Net Operation and Maintenance Expense (per NEB)	$ 9,337,764
1/10 of Net Operation and Maintenance Expense (per Applicant)	9,359,266
NEB ADJUSTMENT	$ (21,502)

(ii) Transmission Line Pack

At the conclusion of the hearing, the Applicant revised the projected average value of transmission line pack to $21,595,047 for the test year, based on an imputed Alberta border price of 167.691¢/GJ.

The Board has adjusted transmission line pack to reflect the new imputed Alberta border price of 170.162¢/GJ resulting in an increase of $318,228. The derivation of the new imputed Alberta border price is provided in Chapter 7.

AVERAGE DEFERRED INCOME TAXES

The average deferred income tax balance, which is deducted in arriving at the allowed total rate base, is the average of the opening and the closing deferred tax balances for the test period. It will continue to be computed in the following manner:

$$\frac{2 \times \text{beginning deferred tax balance} + \text{deferred taxes for the test period}}{2}$$

The beginning deferred tax balance of $30,592,000 was not at issue in the current proceeding and is accepted by the Board. The deferred taxes for the test year will be calculated by multiplying the tax rate by the net of the timing differences relevant in computing taxes payable on the applied-for "stand-alone" basis. These differences are shown below:

	APPLICATION AS REVISED	PER NEB
Depreciation	$ 64,374,773	$ 64,224,926 [1]
Capital Cost Allowance	(107,512,000)	(105,812,937) [1]
Overhead Capitalized	(3,370,000)	(3,370,000)
Non-Allowed Amortization of Debt Discount and Expense	265,000	265,000
Financing Costs	(2,380,000)	(2,380,000)
Interest AFUDC	-	(8,577,388) [2]
Net Timing Differences	(48,622,227)	$ 55,650,399

(1) Reflects Board Decisions regarding Rate Base.

(2) Reflects information set out in Exhibit 133, adjusted by the Board to take into account the Rate of Return actually allowed.

The tax rate of 49.96 per cent was not at issue in this Hearing and is accepted by the Board.

INTEREST AFUDC

This item represents interest expense estimated to be incurred in respect of test-year construction activities which the Company capitalizes for accounting and rate-making purposes but expenses currently for income tax purposes.

The Company took the position that under the equity method of calculating income taxes no deduction should be made in respect of this item in computing deferred income taxes for the test year. In support of its position, the Company looked to the language appearing at page 4-17 of the Board's August 1980 Reasons for Decision which characterized the equity method for calculating income taxes as "being essentially based on the common equity return without taking into account interest expense not recovered in the return on rate base or other expenses allocated to non-utility activities and not recovered in the cost of service".

TAB 13

CANADA

NATIONAL ENERGY BOARD
REASONS FOR DECISION

In the Matter of the Application under Part IV of the National Energy Board Act (Tolls Application)

of

TransCanada PipeLines Limited

July 1982

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VI Functional Distribution and Classification of Authorized Cost of Service

CHAPTER 2

RATE BASE

TransCanada's proposed rate base, as filed, was the average projected utility investment (exclusive of Alberta) for the test period 1 August 1982 to 31 July 1983. For the reasons indicated hereafter, the Board has adjusted the test year rate base in the following manner:

Rate Base

Test Year 1 August 1982 to 31 July 1983

	Application(1)	Application As Revised(2)	NEB Adjustments	Authorized By NEB
Gross Plant	$3,044,976,871	$3,032,908,980	$(3,752,637)	$3,029,156,343
Accumulated Depreciation	(623,496,205)	(623,476,969)	54,556	(623,422,413)
Contributions in Aid of Construction	(2,685,651)	(2,685,651)	-	(2,685,651)
Net Gas Plant	2,418,795,015	2,406,746,360	(3,698,081)	2,403,048,279
Working Capital	71,103,379	72,447,705	(1,342,717)	71,104,988
Average Deferred Income Taxes	(95,136,020)	(99,224,273)	17,803,914	(81,420,359)
Other Deferred Costs	(19,325,071)	(17,284,972)	(3)(4) (2,770)	(17,287,742)
TOTAL RATE BASE	$2,375,437,303	$2,362,684,820	$ 12,760,346	$2,375,445,166

1) Application dated 25 January 1982 as updated by TCPL application dated 16 April 1982.

(2) Application as revised by TCPL letters dated 3 and 17 June 1982 to incorporate various changes based on matters raised during the hearing, including the deletion of facilities associated with the Emerson extension and other adjustments to gross plant as well as the increase in average deferred income taxes due to changes in net timing differences.

(3) Adjusted by an amount of $411,500 for Transmission by Others relating to the TQM Cost of Service. (The average deferred amount for adjustment to Cost of Service as supplied to the Board by TCPL letter dated 17 June 1982.)

(4) Adjusted by an amount of $526,154 for Excise Taxes. (The average deferred amount for adjustment to Cost of Service as supplied to the Board by TCPL letter dated 17 June 1982.)

(ii) Materials and Supplies

The past rapid growth in Materials and Supplies ("M & S") was forecast to continue with an increase of approximately 36 percent occurring between the base year and the test year. Of this growth approximately 90 percent was forecast to be due to quantity increases and only approximately 10 percent was forecast to be due to inflation. During the hearing TransCanada reaffirmed its M & S policy that its level of inventory was designed to ensure the safety and security of the system. TransCanada confirmed that this level was not influenced by financial considerations.

The Board is concerned with the continuing rapid growth in Materials and Supplies but is prepared to accept the amount as applied for in the present application.

AVERAGE DEFERRED INCOME TAXES

As a result of the Board's decision to adopt the flowthrough method in calculating TransCanada's income tax allowance,(1) no current deferred taxes will be included in its tolls. The Board has also decided that no drawdown of previously accumulated deferred taxes should be made at this time. Accordingly, the amount of deferred taxes to be deducted in computing rate base shall consist of the balance of $81,420,359 shown to be outstanding at the beginning of the test year in the Company's application.

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(1) See Chapter 4, page 4-8 of this report.

CHAPTER 4

INCOME TAXES

(i) "Normalized" versus "Flow-through" Tax Treatment

In its application, TransCanada applied to have the Board continue to fix the allowance for income taxes to be included in its tolls on a normalized basis.

Both the Company and the CPA-IPAC led evidence in regard to the tax treatment to be afforded TransCanada for rate-making purposes. This action was taken in response to paragraph 11 of Order RH-3-82, which reads:

> The Applicant shall, as part of its application, address the issue of whether the continued use of the normalized method of calculating the allowance for income tax in the Applicant's tolls is warranted in light of the present and projected circumstances relating to the supply, marketing and pricing of natural gas.

In connection with the tax methodology employed by TCPL during the early years of its operation, that is, the period prior to it being actively regulated by the Board, the Company of its own volition utilized the flow-through method of calculation and included no provision for income taxes in its tolls. In its first toll case before this Board, in 1971, the Company requested that the flow-through method be continued and the Board concurred with that request. In the 1975 TCPL toll hearing the method of calculating income tax was a major issue and at that time the Board decided that the flow-through method should be continued. TCPL again raised the matter in the 1978 rate hearing at which time the Board considered that in light of the circumstances existing at that time it would be appropriate to calculate TCPL's tax allowance on a normalized basis.

In making that decision, the Board gave weight to essentially three considerations. One related to what constituted an appropriate method of cost recognition as this related to intergenerational equity among consumers over time. Another involved the potential effects of the tax treatment choice on producers and hence on their incentives to contribute to Canada's aim of energy self-reliance through exploration and development activity. A third consideration centered on the perceived implications that the tax treatment choice held with respect to TransCanada's ability to borrow funds for the expansion of its pipeline system at favorable rates, having regard to the importance of providing for the establishment of a transmission system which would enable the increased use of gas by Canadians.

The method of calculation of taxes has continued to be an issue raised by intervenors in hearings subsequent to 1978, but the Board continued to rule that, in the absence of any significant change in circumstances, it remained appropriate to calculate TCPL's tax allowance on a normalized basis.

The considerations raised in 1978, and enumerated above, were addressed both directly and indirectly in the course of the present hearing and in light of the circumstances that have come to surround the present and expected future supply, marketing and pricing of natural gas.

As to the matter of the appropriate method of cost recognition for rate-making purposes, it is the Board's view that the considerations relevant to this issue vary with the nature of the particular item of expenditure being considered and with the overall circumstances surrounding the operations of the particular company being regulated. Specifically in relation to income tax costs, one effect of allowing taxes to be calculated on a normalized basis is to have the parties who pay tolls provide TransCanada with amounts of cash in excess of those required to pay its current taxes during periods of growth or expansion. The evidence submitted in relation to TransCanada's current and prospective capital expenditure plans indicated that substantial amounts of deferred taxes (1) would accumulate and possibly not begin to be paid out until the next century. In its consideration of the effect of income tax costs on intergenerational equity, the CPA asserted that normalized taxes were burdensome to consumers in the early years of a system's life, (and thus in periods of substantial growth or expansion as well) insofar as those years are also the years in which the required returns on the capital invested in new assets are highest. The CPA further noted that this

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(1) That portion of taxes collected on a normalized basis which the Company is not required to pay out currently to the Government.

combined cost burden has come to be exacerbated by the effects of current and anticipated inflationary trends on the costs of financing new plant.

With respect to the supply of gas, the situation in 1978 of an apparent shortfall of supply from the traditional sources in western Canada has changed to one of supplies being available in excess of market demand. Further, traditional export markets have not been able to absorb the supplies that have been allocated to them. Additional supplies appear to be on the verge of becoming available in the Arctic and also off the east coast. In relation to the consumption of gas as it is affected by pricing and marketing factors, it is the Board's view that the development of new market areas could be encouraged by setting transportation costs at as low a level as is reasonably possible. Also, it is the Board's view that, in market areas already served, it would appear equally appropriate in times of rising energy costs to minimize the delivery cost of energy to the consumer.

With respect to the consideration relating to TransCanada's ability to borrow funds to expand its pipeline system, evidence was presented which shows that TCPL has had ready access to capital markets for the financing of its investments not only for its utility operation but also for those other activities in which it has become engaged. However, the Company asserted that a changeover to the flow-through method would or could negatively affect its bond ratings and thus its access to and cost of borrowed funds.

The ratings in question were those afforded by the Canadian bond-rating agencies as well as those the Company indicated it might seek from United States rating agencies. However, the evidence indicated that the Company has accomplished significant borrowings in the United States markets without having been rated by the United States agencies. In relation to the Canadian bond ratings, the evidence put forward did not, in the Board's view, offer conclusive support to the Company's assertions that a change in the tax treatment would occasion a downward change in the ratings. In this regard, the Board notes that one of the Company's expert witnesses acknowledged that the tax treatment question was only one of a number of variables involved in the determination of a bond rating.

TCPL also expressed some concern that a change in tax treatment by the Board could be considered by the public and by the security-rating agencies as a change in the regulatory climate in which the Company operates. It is noted, however, that no change in the security ratings of TCPL occurred at the time of the switch from flow-through to normalized.

During the hearing TransCanada's witnesses put considerable emphasis on the need for consistency of regulatory decisions. The Board recognizes that the regulatory climate in which utilities operate is a significant factor in maintaining the financial integrity of utilities. However, the maintenance of mechanical consistency of decisions over time is only one of the factors to be considered. As circumstances change and as the economic climate in which a utility operates also changes, it is necessary that the effect of procedures based on past decisions be examined to decide whether continuation of those procedures would result in the tolls still being just and reasonable.

After giving full consideration to the evidence submitted both by the Company and intervenors and the arguments presented by the various parties, the Board has concluded that the allowance for income tax to be included in TransCanada's tolls should be calculated on a flow-through basis.

In deciding on this treatment, the Board considers that the allowance for income taxes to be included in the tolls for this test year should be equal to the tax calculated with respect to the income for the test year. No adjustment will be made at this time to the balance of deferred taxes that has accumulated from the use of normalized taxes in past periods.

(ii) "Stand-Alone" versus "Non-Stand-Alone" Tax Treatment

As it has since its 1980 application, TransCanada requested in the current case that its allowance for income taxes be calculated on a stand-alone basis. This essentially involves calculating the income tax allowance to be included in the Company's tolls as though the pipeline operations subject to the jurisdiction of this Board were its only business activity. Such an approach operates to disregard items of non-utility income and expense which, on a net basis, may serve to reduce the Company's actual tax liability below that provided for in its tolls.

The Board accepted this approach in its 1980 Decision. The matter was reviewed at some length in the 1981 hearing and the Board reaffirmed the appropriateness of this method in that Decision. This was not a major issue in the current hearing. The Board considers it appropriate to calculate the allowance for taxes in this test year on a stand-alone basis.

(iii) Corporate Surtax

By way of extending the basic stand-alone treatment permitted the Company, TransCanada also requested that the corporate surtax[(1)] be reflected in its tolls. The Board denied the same request in its 1980 TransCanada Decision, on the basis that the Company would not be in a tax paying position and no surtax would be payable. The surtax was not included in the Company's 1981 Rates Application.

When tolls are calculated using the flow-through method for the allowance for income tax and income taxes are being paid, the corporate surtax is an expense actually incurred in respect to utility income. In the particular circumstances of this case, the Board considers it appropriate to include the corporate surtax in the allowance made for income taxes.

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(1) First having been instituted with respect to the years 1980 and 1981, the Federal Government proposed, in its Notice of Ways and Means Motion of 12 November 1981, to extend through 1982 and 1983 the surtax on Federal Part 1 taxes payable as calculated by corporations under the Income Tax Act. For 1982 the rate applicable is five percent, while for 1983 it reduces to 2.5 percent.

(iv) Specific Items to be Included in the Tax Allowance Calculation

(a) Non-Allowable Amortization of Debt Discount and Expense

This item comprises a number of individual amounts, one of which relates to foreign exchange losses on bond redemptions. In information filed early in the proceedings, TransCanada had shown the foreign exchange losses of $2,593,000 as an effective increase in taxable income. This approach effectively reduced the debt-associated financial charges collected in the return on rate base to a level that reflected their actual deductibility for tax purposes. In a later revision, however, the Company included the foreign exchange loss item as a reduction of taxable income. While this was brought to the Company's attention during cross-examination, its final revisions to the components of the tax calculation did not include an adjustment for this item. As the Board believes TransCanada to have inadvertently overlooked this item, it has made the relevant adjustment in the tax calculation appearing below.

(b) Tax Credit for Canadian Gas Research Institute Contributions

One of TransCanada's witnesses, when cross-examined by an intervenor, stated that the Company would be eligible to receive a tax credit of five percent in respect of its contributions to the Canadian Gas Research Institute. The witness agreed that the application did not reflect the tax credit and that it should be updated to include such a credit. However, the tax credit was not included by the Company in its final revisions. The Board has, therefore, adjusted the tax allowance by deducting a tax credit equalling \$13,000 (five percent of \$260,000).

(c) Reduction in Taxes Payable to the Government of Ontario Due to Additional Capital Cost Allowance

During the hearing, TransCanada filed evidence outlining the effects of the recent Province of Ontario Budget on the Company's application. The Provincial Government had elected not to follow the Federal Government in requiring capital cost allowances to be calculated at one-half the normal rate in the year an asset is acquired. Thus, with respect to Ontario taxes, the Company would be allowed to claim the full Capital Cost Allowance ("CCA") rate on assets in the year in which they are acquired. In the final revisions to its application TCPL did not reflect this change. The Board has determined the additional CCA the Company will be able to claim for Ontario corporate tax purposes to be \$17,812,000. As can be seen in the computation appearing at page 4-10, the applied-for tax factor of $0.51175 \div (1-.51175)$ is multiplied by the utility income base in computing TransCanada's overall tax allowance. The portion of this factor relating to Ontario is given by the fraction $0.08686 \div (1-.51175)$, the numerator of which is the effective Ontario rate as reflected in the Company's application. In order to reflect the Ontario Budget plan with respect to CCA, the Board has adjusted the basic flow-through tax allowance downwards by an amount of $3,168,755, which is equal to the additional CCA available in Ontario multiplied by the above fraction, viz: $17,812,000 x [.08686 ÷ (1-.51175)].

(v) Flow-through Tax Calculation

Based on all of its findings with respect to rate base, rate of return and income tax matters, the Board has computed $58,581,567 as the amount of income taxes to be included in the Company's tolls. This computation is presented on the following page.

UTILITY INCOME AFTER TAX	$138,488,453 (1)
<u>Adjustments to Utility Income After Tax</u>	
<u>ADD</u>	
Depreciation	89,880,721
Capital Gains	5,460,821
Non-Allowed Amortization of Debt Discount and Expense	1,401,328
<u>DEDUCT</u>	
Overhead Capitalized	1,335,341
Capital Cost Allowance	139,635,000 (2)
Eligible Capital Expenditures	93,582
Non-Allowable Amortization of Debt Discount and Expense	12,750,574
Inventory Allowance	821,677
Preferred Share Issue Costs	860,000
Interest AFUDC	20,808,052 (3)
UTILITY INCOME AFTER TAX, AS ADJUSTED	$ 58,927,097
Utility Income Tax Allowance $\frac{.51175}{1-.51175}$ X $58,927,097	61,763,322

<u>Adjustments to Utility Income Tax Allowance Re:</u>

Tax Credit for Canadian Gas Research Institute Contributions	(13,000)
Reduction in Taxes Payable to Ontario Due to Additional CCA	(3,168,755)
UTILITY INCOME TAX ALLOWANCE, AS ADJUSTED	$58,581,567

1. Equals the allowed rate base multiplied by the sum of the allowed weighted average costs of preferred and common equity capital i.e., 2,375,445,166 x (.0135 + .0448).
2. Revised to reflect Board adjustments attributable to rate base deletions (Table I, page 2-2).
3. Revised to reflect allowed rate of return on rate base.

TAB 14

CANADA

NATIONAL ENERGY BOARD
REASONS FOR DECISION

In the Matter of the Application Under
Part IV of the National Energy Board Act
(Tolls Application)

of

TransCanada PipeLines Limited

June 1983

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CHAPTER 2
Rate Base

TransCanada's proposed rate base, as filed, was the average projected utility investment (exclusive of Alberta) for the test period from 1 August 1983 to 31 July 1984. For the reasons indicated hereafter, the Board has adjusted the test year rate base in the following manner:

Rate Base
Test Year 1 August 1983 to 31 July 1984

	Application(1)	Application As Revised(2)	NEB Adjustments	Authorized by NEB
Gross Plant	$3,304,920,571	$3,305,069,787	$1,899,760	$3,306,969,547
Accumulated Depreciation	(707,490,944)	(706,005,787)	(6,044,453)	(712,050,240)
Contributions in Aid of Construction	(6,659,957)	(6,659,957)	-	(6,659,957)
Net Gas Plant	$2,590,769,670	$2,592,404,043	$(4,144,693)	$2,588,259,350
Working Capital	83,685,931	83,685,931	(65,822)	83,620,109
Average Deferred Income Taxes	(75,868,922)	(75,868,922)	-	(75,868,922)
Other Deferred Costs	2,478,341	2,247,929	(3,334,806)	(1,086,877)
Total Rate Base	$2,601,065,020	$2,602,468,981	$(7,545,321)	$2,594,923,660

(1) Application dated 31 January 1983 as amended by TCPL application dated 29 April 1983.

(2) On 15 June 1983 TCPL filed exhibits #266 and 266A updating the application incorporating various changes based on matters raised during the hearing.

2.3.2 Materials and Supplies

The test year level of materials and supplies was forecast to increase 26.5 percent over the base year level. TransCanada reported that $1,082,595 of the test year level was due to material surplus to security. It was explained that this material represents good and useable material surplus from construction projects, which has a foreseeable future use either on future construction projects, as security stock, or for maintenance of the system. The Board has, therefore, accepted this level for the test year, but will be monitoring the amount of material surplus to security.

2.4 Average Deferred Income Taxes

The amount of deferred income taxes to be deducted in computing rate base shall consist of the balance of $75,868,922 shown to be outstanding at the beginning of the test year in the Company's application.

2.5 Other Deferred Costs

2.5.1 August 1982 Sales Revenue Deficiency

TransCanada included in Other Deferred Costs the average unamortized balance of the August 1982 sales revenue deficiency in the amount of $4,242,850. The Board has decided not to allow the recovery of the deficiency (Refer to Sections 4.3.2 and 4.8.1), and accordingly has reduced Other Deferred Costs by $4,242,850.

2.5.2 Sale of Facilities to NOVA

TransCanada included in Other Deferred Costs the amount of $908,044 representing the average unamortized balance of the Gain on Sale of Pipeline Facilities to NOVA. As the Board has decided that the gain on sale should be accounted for as that of an ordinary retirement, as described in Section 2.2.1, the amount of $908,044 has been eliminated from Other Deferred Costs.

CHAPTER 3
Rate of Return

In its current application TransCanada submitted that a deemed capitalization should form the basis for the determination of its allowed rate of return on rate base.

The applied-for capitalization and corresponding individual and overall requested rates of return are shown below.

Deemed Average Capitalization and Requested Overall Rate of Return for the Test Year Ending 31 July 1984

	Amount ($000)	Ratio %	Cost Rate %	Cost Component %
Debt				
- Funded	1,549,066	57.28	14.36	8.23
- Unfunded	1,851	.07	13.50	.01
TOTAL DEBT CAPITAL	1,550,917	57.35		8.24
Preferred Share Capital	341,970	12.65	10.44	1.32
Common Equity	811,238	30.00	16.50	4.95
TOTAL CAPITALIZATION	2,704,125	100.00		14.51

The implementation of a deemed capitalization for rate-making purposes was first proposed by TransCanada and accepted by the Board in 1980, subsequent to the Company having embarked upon a major program of diversification[1]. The deeming of capitalization is intended to ensure that the ratepayer is required to pay tolls which reflect a capitalization which is consistent with the business risks of the regulated pipeline operations and which incorporates those costs of capital used to finance utility assets. It is for this basic reason that the Board continues to approve the use of a deemed capitalization in relation to the Company's current application.

1. Prior to 1980, TransCanada's actual corporate or consolidated capitalization had been used as the basis for establishing the rate of return which the Company was allowed to earn on its rate base.

The total of the deemed capitalization amount comprises the sum of the Company's inside and outside Alberta rate bases and gas plant under construction.

The composition of this capitalization together with matters relating to the individual capital cost rates is discussed below.

3.1 Inclusion of GPUC in Capitalization

In its 1982 Reasons for Decision, the Board directed the Company to address the matter of including gas plant under construction (GPUC) in total capitalization at the time of its next toll application.

A witness for the Company took the position that investors view GPUC as no different from GPIS and that it is appropriate to include GPUC in the utility capitalization in order to provide for the recovery of the costs of financing this activity.

In the present application, the inclusion or exclusion of GPUC from the applied-for capitalization would leave the rate of return on rate base unchanged. This is largely due to the relatively small size of the Company's planned construction program for the test year.

Under the circumstances of this case, the Board approves the inclusion of GPUC in the total capitalization used for rate-making purposes.

3.2 Funded Debt

The funded debt component of the deemed capitalization represents the average principal of debt capital associated with the utility investments projected to be outstanding during the test year. This element consists of debt which has been specifically identified as utility-related. The Board approves the inclusion of this debt in the capital structure used for rate-making purposes.

The computation of the embedded cost rate of this debt is shown in Appendix VI of this decision. This cost rate has been computed on a basis consistent with that employed in the 1982 proceeding. The Board accepts the applied-for cost rate of 14.36 percent.

3.3 Unfunded Debt

This element of the total capitalization represents debt which the Company expects to be issued on a long-term basis during the course of the test year.(1)

TransCanada requested that this debt be costed at a rate of 13.5 percent. However, the testimony of its expert witness indicated that the prospective rate at which the Company could borrow during the test year lay in the upper half of the range of 12 to 13 percent which he considered as being applicable to high quality corporate credits.

During cross-examination, the expert witness for CPA/IPAC expressed the opinion that the rate at which TransCanada could presently borrow would lie more in the middle of this range and that the level of interest rates over the remainder of the test period would be little different from those now being observed.

Having regard to the evidence presented, the Board has decided to cost the unfunded debt component of the allowed capitalization at a rate of 12.5 percent.

3.4 Preferred Share Capital

The applied-for preferred share capital represents the average stated capital of preferred share issues associated with utility investments projected to be outstanding during the test year. The applicable cost rate was calculated in a manner consistent with prior applications. The Board accepts the applied-for cost rate of 10.44 percent.

3.5 Common Equity

3.5.1 Common Equity Ratio

As indicated at the outset of this Chapter, the use of a deemed capital structure for rate-making purposes began following TransCanada's diversification into non-utility activities. The dollar value of the elements of the deemed capitalization relating to funded debt and preferred shares currently represents the test year average amounts which can be traced, in effect, directly to the utility operations.

By contrast, the dollar value of the common equity component results from multiplying the total capitalization, which is predetermined as the sum of the inside and outside Alberta rate bases and GPUC, by a common equity ratio. This dollar value is dependent therefore upon the selection of an appropriate value for the deemed common equity ratio.

In the current proceeding, TransCanada requested that a deemed common equity ratio of 30 percent be employed for rate-making purposes as opposed to the 28 percent ratio fixed by the Board in relation to the Company's 1982/83 test year.

In its final argument, TransCanada took the position that a return to the 30 percent deemed common equity ratio allowed the Company in 1980 and 1981 was warranted, essentially because of increases in the levels of business risks confronting the Company and improvements in the residual capitalization underpinning its non-utility activities. TransCanada also asserted that the proportions of debt and preferred stock contained in its applied-for capital structure are within the range of ratios approved by the Board in earlier cases; that the 30 percent applied-for equity ratio was at the low end of the range exhibited by other high quality Canadian utilities; and that the allowance of the 30 percent equity ratio would assist it in maintaining its relative credit standing in the capital markets.

In the Board's view, the evidence did not establish that a significant change in the business risk confronting the Company's utility operations has taken place since the 28 percent deemed common equity ratio was found to be appropriate by the Board in 1982.

With respect to the maintenance of an internal balance as between the debt and equity elements of the deemed capital structure, no evidence was presented that the use of a 28 percent deemed common equity ratio has adversely affected the financial flexibility or creditworthiness of TCPL's utility operations.

(1) This element is derived by subtracting funded debt, preferred share capital and common equity capital from the total capitalization.

In relation to the residual capitalization underpinning its non-utility activities (1), the Company asserted that changes have taken place since the time of its last toll hearing which should remove any concern about the potential for cross-subsidization (2). In this connection TCPL put forward financial data in relation to the 1982/83 and 1983/84 test years which indicated an increase in the amount of common equity underlying the non-utility activities. In addition, the Company submitted that the reasonableness of the capital structure supporting the non-utility activities should also be assessed in terms of its debt ratio. This approach effectively involves considering the deferred taxes contained in the non-utility capital structure as constituting equity or quasi-equity funding.

In this regard, the expert witness for one intervenor took the position that, while some weight should be given to deferred taxes in this context, the deferred tax and common equity elements were not, in his view, strictly additive. Also, several intervenors who addressed the matter in the current proceeding expressed concern that the potential for cross-subsidization has not been eliminated.

The Board was not convinced by the evidence presented by the Applicant that an increase in the common equity ratio from the level allowed in its previous decision is warranted. Accordingly, the Board maintains the 28 percent common equity ratio for the current test year.

(1) This capitalization is obtained by subtracting the dollar values of the various components of total capital deemed to apply to the utility operations from those actually existing in the Company's consolidated capitalization.

(2) Cross-subsidization may be implied to the extent that the ratepayer is required to reimburse the Company in respect of equity capital which in fact is required for non-utility activities. Such a view may be taken when the deduction of the common equity contained in the deemed utility capitalization from that present in the consolidated capitalization yields a residual to support the non-utility operations which is apparently less than that which would ordinarily be required to finance such riskier operations on a stand-alone basis.

3.5.2 Rate of Return on Common Equity

TransCanada applied for a rate of return on common equity of 16.50 percent, as compared to the currently allowed rate of 16.00 percent. In requesting this rate of return, the Company relied upon its expert's recommendation for a rate of 16.50 to 16.75 percent. In arriving at his recommendation, the Company's witness considered the equity risk premium, discounted cash flow (DCF) and comparable earnings approaches to estimating the cost of equity capital.

CPA and IPAC presented joint evidence in this matter and recommended a rate of return of 14.25 to 14.75 percent. In making this recommendation, their expert witness relied primarily on the DCF approach accompanied by an analysis of the appropriateness of the equity risk premium implicit in the result obtained from that technique.

The Ministry of Energy for Ontario also presented evidence in this matter and recommended a rate of return of 14.50 to 15.00 percent. In making this recommendation, their expert witness considered the equity risk premium, DCF and comparable earnings approaches to estimating the cost of equity capital.

Through his application of the equity risk premium approach the Company's witness estimated that the investors' required rate of return (IRR) in respect of TCPL lay in the range of 15.25 to 16 percent. This IRR level incorporated an equity risk premium of 2.5 to 3.0 percent over the witness' estimate of the long-term corporate debt rate that would be applicable to TCPL in 1983, which lay in the upper half of a range of 12.5 to 13.0 percent. The witness concluded from an analysis of historical studies that the long-term expected equity risk premium over expected long-term corporate debt returns lay in the range of at least 4 to 5 percent for the common equity market as a whole. The witness then judgmentally adjusted this range downwards to 2.5 to 3 percent in order to recognize the lower risk of utility stocks.

In applying the DCF technique, the witness elected not to rely upon an analysis of several years of historical data. This was due to his belief that investors' future growth expectations should not be based on inflated historical growth rates in earnings which were experienced in many cases during the periods he examined. The witness also pointed out that if the historical growth rates of periods such as 1982 in which earnings declined sharply were used, future growth expectations would be understated in many cases.

Thus, the witness essentially relied on market-derived illustrations of the IRR level of two utilities which he viewed as being proxies for TCPL on a stand-alone basis. The indicated IRR range for each of these companies based on the witness' analysis was 15.2 to 16.2 percent. The witness adopted the lower half of this range of 15 to 15.5 percent because it was his opinion that these two utilities would find it difficult to achieve growth much above 9 percent on their regulated operations. The witness then adjusted this IRR range to a level of 15.25 to 15.5 percent to reflect his view that TCPL was slightly more risky than the two utilities in question. The expert witness also arrived at another illustration of the DCF cost of capital through an examination of the major bank stocks in Canada. The indicated IRR level of 16.5 to 18.5 percent for these stocks confirmed in the witness' mind the conservative nature of his forecasted IRR levels for both TCPL and the other two utilities which he examined.

Having established his estimated IRR range for TCPL of 15.25 to 15.5 percent, the witness proceeded to express it in terms of what he viewed as an appropriate rate of return on book equity range of 16.75 to 17 percent by employing a market-to-book ratio of 1.2. The witness believed that a company such as TCPL should strive to maintain a market-to-book ratio of 1.2 to permit the attraction of equity capital without diluting existing shareholders' equity and impairing the financial integrity of the Company. The expert witness then adjusted this range downward by 25 basis points to a level of 16.5 to 16.75 percent to take into account his view that industrial companies are not earning adequate rates of return in 1983 and it will be at least 1984 before their returns become adequate again. This range implied market-to-book ratios ranging from 1.1 to 1.2.

With respect to the comparable earnings test, the witness set forth financial data on 21 high grade industrials which were selected on the basis of having been awarded a credit rating of A or better by either of the two Canadian bond rating services as well as having a broad market following. The witness stated that returns earned by such companies in 1982 were inadequate and even though earnings prospects for 1983 were much brighter, it was his view that these returns would also be inadequate. For 20 of the 21 industrials of his sample, the witness presented expected average and median rates of return on common book equity in 1983 of 13.51 and 14.05 percent respectively. In this regard, the witness took the view that, under current circumstances, utilities should be able to earn returns in 1983 above the average of those that can be expected by industrial companies of comparable investment risk.

The witness for CPA/IPAC arrived at his rate of return recommendation by first applying the DCF technique to a sample of 19 low risk non-utility companies. His estimate of the IRR for this group of companies lay in the range of 12.4 to 14.6 percent. Because of his view that the utility activities of established Canadian gas transmission companies are of lesser risk than the low risk non-utilities included in his sample, the witness adopted an IRR range of 13.6 to 14.1 percent as being relevant to the former companies. The witness then added 65 basis points to his IRR range to arrive at his final rate of return recommendation of 14.25 to 14.75 percent. He indicated that the additional 65 basis points were added to protect the investor in TCPL from a number of possible eventualities which might materialize during the test year and beyond, including the risk of dilution should new equity capital have to be raised under adverse market conditions.

During cross-examination, the witness noted that, after having made his final recommendation, the dividend yield for his sample of industrials had decreased slightly over the period March to May 1983. The witness pointed out that associated with the decrease of the indicated dividend yield from the level of 3.9 percent for the first three months of 1983 was probably a more optimistic prospect for growth on the part of investors.

With respect to the risk premium implicit in his final rate of return recommendation, the expert witness stated in his testimony that the spread between his recommendation and long-term Government of Canada bonds as of mid-April 1983 was 2.75 to 3.25 percent. It was noted during cross-examination that as of late May 1983, the same spread implicit in his final rate of return recommendation of 14.25 to 14.75 percent had increased to 2.95 to 3.45 percent. In this regard, the witness stated that, to the extent there has been a consistent downward movement in Government bond yields since his testimony was prepared, he would be more inclined to focus on the middle of his 14.25 to 14.75 percent range.

Citing the declines in long-term bond and dividend yields as well as what it felt to be the optimistic nature of the growth rate reflected in its witness' recommendation, CPA/IPAC took the position in final argument that the rate of return on common equity should be fixed at the lower end of the 14.25 to 14.75 percent range.

In his application of the equity risk premium approach, the expert witness for the

Ontario Ministry of Energy examined the historical risk premium achieved in different classes of stock investments on the Toronto Stock Exchange (TSE) over the yields of long-term Canada bonds during the past twenty years. The witness concluded from his analysis that investors in shares of risk comparable to that of the average stock traded on the TSE should expect a premium in the long run of 2 to 3 percent over the yields of long-term Canada bonds. The witness proceeded to add this premium to the long-term Canada bond yields of 11.50 percent available at the time he prepared his testimony to arrive at a cost of equity capital of 13.5 to 14.5 percent for a security of average market risk. The witness then adjusted this range downwards to a level of 12.96 to 14.36 percent in recognition of the lower risk associated with utilities when compared with the other sub-indices of the TSE.

With respect to the comparable earnings test, the witness reviewed historical returns on book equity for both utility and industrial company samples over the periods 1972 to 1981 and 1977 to 1981. However, essentially because of his belief that returns on book equity are highly distorted by accounting procedures in the current inflationary environment, the witness indicated that he had not placed reliance on this method in arriving at his recommendation.

With respect to the DCF approach, the witness reviewed the yields and historical growth rates of a sample of utilities, asserting that the greater stability inherent in utilities leads to greater predictability in the growth factor involved in the DCF approach. In arriving at his estimate of 13.70 to 14.11 percent, the witness calculated the average and median dividend yields and historical growth in earnings for his sample of utilities. The witness then deducted 2.2 percent from the expected growth rate because of his observation that the rate of inflation of 7.4 percent in place at the time he prepared his testimony was less than the average inflation rate over the past ten years by that amount. During cross-examination, the witness agreed that the dividend yield figures in his analysis would reflect to some extent the expectation of lower interest and inflation rates, but that he considered his 2.2 percent downward adjustment to be quite conservative in light of the currently forecasted rates of inflation of 6.0 to 6.5 percent.

Based on the results of the equity risk premium and DCF approaches, the witness concluded that the IRR level applicable to TCPL was 13 to 14 percent, unadjusted for market pressure. Applying a market-to-book ratio of 1.1 to this result to allow for market pressure led the witness to conclude that a range of 14.3 to 15.4 percent was appropriate. In recognition of a number of allowances incorporated in his overall analysis, the witness judgmentally adjusted this range to a level of 14.5 to 15.0 percent.

The determination of an appropriate rate of return on common equity involves the use of methods which are necessarily indirect and subject to the exercise of judgment. Based upon its consideration of all of the evidence presented and having regard to the decline in interest and inflation rates since the Company's last toll hearing as well as its decision in respect of the common equity ratio, the Board finds 15 percent to be a fair and reasonable rate of return on the common equity.

3.6 Rate of Return on Rate Base

Based upon its findings of this case, the Board has decided that a rate of return on rate base of 14.00 percent is fair and reasonable[1]. The derivation of this rate of return is provided below.

	Amount ($000)	Ratio %	Cost Rate %	Cost Component %
Debt				
- Funded	$1,549,066	57.45	14.36	8.25
- Unfunded	50,501	1.87	12.50	0.23
TOTAL DEBT CAPITAL	$1,599,567	59.32		8.48
Preferred Share Capital	$341,970	12.68	10.44	1.32
Common Equity	755,042	28.00	15.00	4.20
TOTAL CAPITALIZATION	(2) $2,696,579	100.00		14.00

1. A comparison of the rates of return previously authorized, applied for and approved in this Decision is provided in Appendix V.

	($000)
2. Rate Base Outside Alberta	$2,594,924
Alberta Rate Base	88,463
Gas Plant Under Construction	13,192
	$2,696,579