

1992-2

YUKON UTILITIES BOARD

DECISION 1992-2

JANUARY 17, 1992

RE

YUKON ELECTRICAL COMPANY LIMITED

YUKON UTILITIES BOARD

DECISION 1992-2

FRIDAY, THE 17TH DAY OF JANUARY, A.D. 1992

IN THE MATTER OF the "Public Utilities Act",
being Chapter 143 of the Revised Statutes of
Yukon, 1986, as amended;

AND IN THE MATTER OF an application by Yukon
Electrical Company Limited to the Yukon
Utilities Board for Orders approving changes
in existing rates, tolls or charges for
electric light, power or energy and related
services supplied to its customers within
Yukon.

BEFORE:

THE YUKON UTILITIES BOARD

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APPEARANCES

For the Yukon Electrical Company Limited:	M. D. Romanow
For Yukon Energy Corporation:	P.J. Landry
For City of Whitehorse:	E.J. Walter Michael Davies
For Curragh Resources Inc.:	Ian Blue Ms. Robin Adelson
For The Whitehorse Chamber of Commerce:	David Morrison
For Himself:	Peter Percival Gary McRobb
For Himself:	Doug Craig
For The Independent Alliance	Ms. B. Firth A. Nordling

WITNESSES

For the Yukon Electrical Company Limited:

Grant Lake
Harvey Kerslake
Rory Nugent
Kathleen McShane
Doug Baer
John Carroll
Don Willems
Wayne Wright
Owen Edmondson
Kirk Poteet
Richard Stout
Hector Campbell

For Yukon Energy Corporation:

Cam Osler
Michael Sweatman
John Maissan
Fred Berger

Curragh Resources Inc:

David Parcell

1. INTRODUCTION

Yukon Electrical Company Limited ("**YECL, the Company**") filed an Application dated June 6, 1991 with the Yukon Utilities Board ("**the Board**") for an Order or Orders of the Board fixing and approving just and reasonable rates, charges or schedules thereof, for electric light, power or energy and related services to be supplied by YECL, including terms and conditions of service.

In its Application YECL made an application for the implementation of interim refundable rates representing an overall increase in retail rates of 14.3% effective July 1, 1991 for all bills issued on or after July 1, 1991. The Board, following public notice, heard the Company's Application at a public hearing held in the City of Whitehorse on June 22, 1991. On June 25, 1991 the Board issued Interim Order 1991-1 wherein it approved an overall increase in retail rates of 13.5% as interim refundable rates effective July 1, 1991. The Board issued its reasons for Interim Order 1991-1 in its Decision 1991-2.

The Board held pre-hearing conferences on August 8, 1991 and October 22, 1991 to establish the hearing schedule and to resolve other issues relating to the conduct of the hearing. Subsequent to the pre-hearing conferences intervenors were provided with an opportunity to make written information requests to YECL and these requests elicited written responses

which were made available to all parties prior to the hearing of the Application. Written information requests by the Board together with responses thereto were also made available to all parties prior to the hearing of the main Application.

The hearing of the main Application was held in Whitehorse November 25 - 29, 1991. Subsequent to the hearing the applicant and intervenors were provided with the opportunity to submit written argument and reply argument.

During the course of the hearing members of the public who were not registered as intervenors were invited to participate in the proceedings. Dr. Doug Craig, who has conducted a study on the "wind regime in the neighbourhood of Whitehorse" read into the record some brief comments on wind energy and submitted a technical report entitled "Wind Energy Potential". The Independent Alliance made an oral presentation to the Board just prior to the adjournment of the public hearing.

The Board in this Decision will determine the Company's rate base, fair return on rate base and total electric utility revenue requirement for the approved test years and will provide reasons with respect to the Board's Decision on these matters.

The Board will deal with matters respecting the rates and electric service regulations in Decision 1992-4.

2. TEST YEARS

The Board approves the forecast years 1991 and 1992 as the test years for this Application as requested by the Company.

3. RATE BASE

3.1 General

The determination of a rate base for the purpose of fixing just and reasonable rates, tolls or charges is governed by the provisions of Section 32 of the Public Utilities Act which provides as follows:

"32.(1) The board, by order, shall determine a rate base for the property of a public utility used or required to be used to provide service to the public, and may include a rate base for property under construction, or constructed or acquired, and intended to be used in the future to provide service to the public."

Pursuant to Section 32 the Board has determined a rate base for the 1991 and 1992 test years as shown in Schedule A attached hereto.

3.2 Gross Plant-in-Service

3.2.1 Capitalization Policy

During cross-examination Company witnesses explained that it was the Company's policy to capitalize costs if an item provides benefits for more than one year, is significant in

amount and/or replaces an asset that can be identified and retired.

During cross-examination Company witnesses agreed that a utility is indifferent to capitalizing versus expensing an asset provided the utility is allowed a fair return on the capital invested in the asset and a return of the capital invested in the asset. A utility's main concern in establishing the accounting treatment for an asset is matching the use of the asset with the expensing of the cost of that asset to ensure intergenerational equity between customers.

The Board accepts the Company's capitalization policy for purposes of this Decision.

3.2.2 Capital Expenditures and Net Additions to Rate Base

YECL set out its calculations of net property plant and equipment in Section 5, Schedule 3 of its Application. A summary of capital expenditures forecast for the test years 1991 and 1992 is contained in Schedule 3(c). The Company forecast capital expenditures of \$7,240,000 and \$7,470,000 for the years 1991 and 1992 respectively. After deducting forecast customer contributions the net capital investment by the Company is forecast to be \$6,094,000 and \$6,570,000 for 1991 and 1992 respectively.

In response to a Board information request the Company set out details with respect to expenditures forecast to be

transferred into rate base for each of the years 1991 and 1992 and the year end balances in construction work in progress.

During cross-examination concern was expressed by intervenors with respect to the accuracy of the Company's capital forecast. In response to an undertaking to review its capital forecast the Company indicated that its most recent estimate of capital expenditures would result in a decrease in rate base of \$45,000 in 1991 and an increase in rate base of \$320,000 in 1992 although details of the expected changes were not provided.

The Board will use the net property, plant and equipment as set out in Schedule 3 of the Application to determine the midyear rate base for each of the years 1991 and 1992.

3.3 Accumulated Depreciation

In response to a Board directive in Decision 1989-3 YECL conducted a depreciation study in 1990 to determine the appropriate service life and net salvage characteristics to be applied to the Company's plant and equipment in determining accumulated depreciation and depreciation expense. The Company provided the results of the study in Tab 4 of its evidence and an explanation of the factors influencing the selected depreciation parameters was provided in Tab 13.

The Company depreciates its property, plant and equipment on an Equal Life Group ("ELG") basis. The Company explained that because minimal historical experience exists for its

plant investment, the Company relied on selected service life and net salvage characteristics used by Alberta Power Limited ("APL") as determined in its 1986 depreciation study.

The Company requested approval by the Board to calculate its depreciation rates and depreciation reserve requirements each year based on the service life and net salvage characteristics as set out in its Application. The Company explained that the annual calculation of depreciation rates based on Board approved depreciation characteristics results in a more accurate calculation of depreciation expense than the use of Board approved depreciation rates because the former method reflects the changing mix of vintage investment resulting from aging of plant, growth additions, retirements and transfers.

The Company witness acknowledged during cross-examination that APL had conducted a depreciation study in 1991 and in response to an undertaking YECL filed Exhibit 8-45, an update to the YECL depreciation study for those accounts which utilized APL's parameters.

The impact of the update to the YECL depreciation study was to reduce depreciation expense by \$40,000 in each of the years 1991 and 1992. The Company in its argument recommended that the revised depreciation expense and accumulated depreciation as set out in Exhibit 8-45 be used for purposes of determining the 1991 and 1992 revenue requirements.

Curragh Resources Inc. ("**Curragh**") in its argument expressed the following concerns with respect to depreciation expense and negative net salvage:

"Depreciation expense for YEC and YECL amounts to four percentage points of return to the capital invested in rate base. Given the companies' concern over the impact of rate increases in Yukon today and continuing into 1993 and 1994, Curragh submits that this is not the time to be increasing depreciation rates. Within the simplistic framework of straight line depreciation, this is the time to be making optimistic assumptions about the remaining life of the companies' assets and to be reducing depreciation rates. Such an approach, coupled with review and adjustment of depreciation rates every few years can establish a pattern of depreciation expense over time which will help to smooth the impact of bringing on major new capital projects.

Where possible, the companies propose to rely on the equal life group (ELG) methodology of estimating appropriate depreciation rates and to incorporate in depreciation rates a provision for negative salvage. The equal life group methodology relies on historical information for similar asset types and similar vintages of assets. It is a useful but complex set of procedures for the estimation of appropriate depreciation rates. However, the ELG method relies on the assumption that the past data is a predictor of the future life of assets." (Page 23)

Curragh further submitted that:

" The appropriate levels of negative salvage in the Companies' Application were cast in doubt at the hearing as certain of the negative salvage percentages were changed significantly in response to questioning by intervenors. Although it may be coincidental, cases where significant percentage levels of negative salvage were introduced in the main application (Ex. 1, Tab 4.4, Schedule 1) were also cases where extensions were being made to

the depreciable life of the asset class."
(Page 24)

The Board notes that the Company's use of the ELG methodology to determine depreciation and negative net salvage is an accepted practice for regulated utilities in Canada.

As acknowledged in Curragh's argument, the Company's practices rely on past data to predict the future life of assets. The Board notes that Curragh did not provide any evidence that would indicate that past experience is not a reasonable predictor of the future life of assets, nor did it provide any evidence to support its position that the negative net salvage rates are excessive.

The Board is not persuaded that depreciation expense should be based on "optimistic assumptions about the remaining life of the assets" given the size of YECL's proposed rate increases. The Board agrees with the Company that the purpose of depreciation is to allocate the depreciable costs of an asset as evenly as possible over the service life of that asset to ensure intergenerational equity between customers.

Accordingly, the Board approves the service life and net salvage characteristics as amended by the Company in Exhibit 8-45.

3.4 Dismantling Reserve

In response to an information request YECL indicated that the dismantling reserve set up to cover the costs of retiring Yukon hydro plants, Numbers 1 and 2, results in a duplication of negative net salvage costs in customer rates as negative net salvage is also provided for in these plants' depreciation charge.

The City of Whitehorse in its argument recognized that Schedule 2, Page 1 under Tab 4 of YECL's evidence showed that the book depreciation reserve for these hydro plants was significantly higher than the calculated reserve requirement. On this basis the City of Whitehorse recommended that:

"... the Dismantling Reserve be reversed in 1991 and recognized as a reduction in depreciation allowance in that year on the basis that it is no longer required and there is sufficient book reserve on these assets at this time." (Page 11)

In its reply argument YECL stated that:

"In Exhibit 8-45, revised Scheduled 2, page 1 for Yukon Electrical the Dismantling Reserve was added to the booked depreciation reserve because it is essentially the negative net salvage component of accumulated depreciation separately accrued over the years. The effect on the remaining life amortization is a decrease [sic] from \$10,329 in the original schedule to \$13,722 for hydro assets. Yukon Electrical submits that the hydro account should be treated like any other plant account for reserve adjustment procedures." (Page 20)

The Board concurs with YECL that the dismantling reserve is essentially the negative net salvage component of

accumulated depreciation and accordingly accepts YECL's treatment of the dismantling reserve in Exhibit 8-45.

3.5 Working Capital Allowance

Necessary working capital is included in rate base in recognition of the need for investor supplied funds for the day to day operation of the utility in addition to the capital invested in property plant and equipment. YECL's forecast working capital allowance is \$2,388,000 and \$2,607,000 for 1991 and 1992 respectively (Tab 5, Schedule 2). YECL's working capital allowance was determined based on a Lead/Lag Study performed in 1989.

The Lead/Lag study is found under Tab 14 of YECL's Application. It shows that on average the Company pays its operating expenses 20 days prior to the collection of its revenues. Thus, on average, investor supplied funds are required to finance the operating expenses for a 20 day period.

3.5.1 Impact of GST on Working Capital

During cross-examination Company witnesses indicated that Goods and Service Tax ("GST") had not been considered in the determination of necessary working capital as the Company did not have sufficient experience to forecast the impact. In response to an undertaking by the Company to estimate the

impact of GST on necessary working capital, the Company provided the following information:

"On a global basis we estimate the impact of GST on working capital for YECL would be an increase of \$50,000 for 1991 and \$60,000 in 1992. We estimate there would not be a significant change to YEC's necessary working capital. A detailed calculation based on all transactions year to date would take approximately two weeks to complete."

The Board does not consider that sufficient evidence has been provided to evaluate the impact of GST on working capital and accordingly has not made an adjustment to YECL's working capital allowance for the impact of GST.

3.5.2 Income Taxes in Working Capital Allowance

Schedule 2, Tab 5 of YECL's Application contains a computation of allowance for working capital for 1991 and 1992. The allowance respecting income taxes is calculated to be 36/365 of "Prior Year Tax Provision".

Company witnesses indicated that the 36 day lag is based on the average revenue lag of 51 days approved in the last general rate application less a consumption lag of 15 days.

Curragh submitted in its argument that:

"Curragh submits that a factor of 33/365 should be applied to the prior year taxes, reflecting the 48 day revenue lag which the Applicant proposes in the Lead Lag Study filed under Section 14." (Page 14)

The Board agrees with Curragh that the current revenue lag of 48 days should be used for this calculation. Curragh

also took issue with the fact that YECL did not take into consideration that the Company has had use of funds for the final tax instalment well in advance of making the final instalment payment.

The Board shares Curragh's concern. The Board considers that for the purpose of this Decision the net lag on final income tax payments made by the Company on February 28 of the year following the taxation year is 194 days.

The Board has revised the computation of allowance for working capital to reflect:

- (1) the 48 day revenue lag on income tax instalments made during the current year (prior year tax provision), and
- (2) the lag of 194 days on forecast final income tax payments.

The Board's calculation of the 1991 and 1992 working capital allowance is shown on Schedule B.

3.6 Electric Utility Rate Base

After having given consideration to the relevant evidence, the Board has determined the electric utility rate base for YECL for the two test years to be as follows and is shown on Schedule A attached.

1991	\$20,687,000
1992	\$23,286,000

4. FAIR RETURN ON RATE BASE

4.1 General

Having determined the rate base for YECL, the Board is also required pursuant to Section 32(2) of the Public Utilities Act to "fix a fair return on the rate base".

" (2) The board, by order, shall fix a fair return on the rate base.

(3) In determining a rate base the board shall give due consideration to the cost of the property when first devoted to public utility use, to prudent acquisition cost less depreciation, amortization or depletion, and to necessary working capital.

(4) In fixing the fair return that the public utility is entitled to earn on the rate base, the board shall give due consideration to all those facts that in the opinion of the board are relevant.

(5) Notwithstanding the other provisions of this section, the board may adopt any just and reasonable basis for determining a method of calculating a fair return on property that is being constructed or that has been constructed or acquired but is not yet being used to provide service to the public."

In fixing the fair return on rate base, the Board considers it appropriate to take into consideration the rate of return applicable to each component of the Company's capital structure which it considers to be financing the rate base.

Generally, the Board considers that a fair return on rate base is a return that will result in providing the customers of the utility with the lowest utility rates practicable

consistent with the utility's duty to furnish safe, adequate and proper service on an on-going basis.

The return should be sufficient to enable the utility to maintain its property, plant and equipment in an effective and efficient operating condition, and at the same time enable the utility to maintain its financial integrity and thus enable it to obtain necessary capital on reasonable terms.

4.2 Capital Structure

Tab 5, Schedule 4 of YECL's Application sets out YECL's proposed capital structure for 1991 and 1992.

	Midyear Balance <u>1991</u> (000's)	<u>1991</u>	Midyear Balance <u>1992</u> (000's)	<u>1992</u>
Long Term Debt	\$ 9,011	41.51%	\$10,511	39.23%
Preferred Stock	4,940	22.76%	6,440	24.04%
Common Stock	7,408	34.13%	9,422	35.17%
No Cost Capital	<u>347</u>	<u>1.60%</u>	<u>418</u>	<u>1.56%</u>
	<u>\$21,706</u>	<u>100.00%</u>	<u>\$26,791</u>	<u>100.00%</u>

The Board accepts for purposes of this Decision YECL's proposed capital structure.

4.3 Cost of Debt

As noted by the City of Whitehorse in its argument, YECL proposed to raise \$3 million through a debt issue in 1992 at a forecast coupon rate of 10.91%. The City of Whitehorse also

noted that Canadian Utilities Limited had recently issued debt with a coupon rate of 9.92%. Given the significant reduction in long term interest rates, the Board will allow a rate of 10.0% to be applied to YECL's forecast 1992 debt issue. The Board has recalculated the embedded cost of debt for 1992 as 11.302%.

4.4 Rate of Return on Common Equity

4.4.1 Requested Rate - Fair Rate of Return

In its initial Application filed June 6, 1991, YECL requested a fair rate of return on rate base deemed to be financed by equity of 14% for each of the years 1991 and 1992.

YECL's requested fair rate of return was based on APL's requested rate of return for the years 1991 and 1992. During the course of the proceedings the Company found it necessary to file Yukon specific evidence with respect to the fair rate of return on common equity.

Two witnesses appeared on the matter of a fair rate of return. The applicant(s) presented Ms. K.C. McShane, a vice-president with the Washington based consulting firm Foster Associates. Curragh Resources Inc. presented Mr. David Parcell, a vice-president with the Virginia based firm Technical Associates Incorporated.

4.4.1.1 Evidence of Ms. McShane

Ms. McShane, YECL's expert witness, recommended a fair rate of return of 14.75% to 15% for each of the years 1991 and 1992. The Company adjusted its 1992 revenue requirement based on Ms. McShane's Yukon specific evidence and requested a 14.75% rate of return on common equity in 1992.

Ms. McShane relied upon three tests in developing her rate of return recommendation(s): the comparable earnings test, the Discounted Cash Flow ("DCF") and equity risk premium. Ms. McShane acknowledged that the results of each test vary and that the weight given to each is a matter of judgement. Ms. McShane assigned a weight of 50% to her comparable earnings results and 50% weight to her DCF and equity risk premium results taken together.

With respect to Ms. McShane's application of the comparable earnings test, the Board is basically concerned with the nature of the data on which it is based. The Board recognizes that the rate of return on common equity calculation is based on earnings values and book values which reflect the application of generally accepted accounting principles. However, the Board is concerned that the application of these principles may well result in values which, in fact, have not accurately reflected the corporation's earnings in an economic sense. The Board is led to this conclusion by, among other things, Ms. McShane's acknowledgement that a major weakness of the test may be

distortion of book values in earlier years. The Board is also led to this conclusion by the significant differences, on average, between per share market prices and book values for Ms. McShane's sample companies.

Ms. McShane's analysis of price level adjusted book values supports the conclusion that substantial differences exist between the accounting values and price level adjusted values. This being the case, the Board is led to the conclusion that historical rates of return on common equity may well overstate the rate of return prospectively achievable by these companies.

Ms. McShane's position is that the values based on historical accounting data are appropriate because the fair rate of return is to be applied to utilities regulated on an original cost basis. This contention has a certain appeal; however, the Board is not convinced that the data for industrial corporations which are subject to wide variations in capital intensity and, in all likelihood, in asset vintages, will average out to provide values which fit closely enough with the economic circumstances of the two utilities that are the subject of this Decision.

While the Board remains concerned with the limitations of comparable earnings data for a determination of the appropriate level of the fair return, the Board is of the view that these data provide an indication of the trend in rates of return. The Board notes the reductions made by Ms. McShane in

her estimates of 1991 rates of return for her industrial sample during the course of her various appearances in 1991. In addition, the Board is concerned that Ms. McShane's expectation concerning the possible extent of an economic recovery is somewhat optimistic. Accordingly, the Board is of the view that Ms. McShane's estimate of 1992 corporate profitability is overstated.

With respect to Ms. McShane's application of the DCF test, the Board notes that Ms. McShane raised her estimate of growth (although data the same) from her APL estimate because of the decline in the dividend yield component. Ms. McShane acknowledged that the decline in the dividend yield could also be attributed to a decline in the rate of return required by investors in common shares. In view of the contemporaneous decline in interest rates and no clear signs of improved corporate profitability, the Board feels that the decline in the dividend yield is more likely a manifestation of a decline in Investors' Required Rates of Return ("IRR"). Accordingly the Board believes that Ms. McShane's DCF estimates overstate the IRR.

In developing her estimate of the IRR based on the equity risk premium method, Ms. McShane utilized a long term Government of Canada bond rate of 9.75%. At the time of the hearing, yields on Government of Canada bonds 10 years and over to maturity were in the order of 8.98%. Notwithstanding this fact, Ms. McShane felt that her 9.75% value continued to

be appropriate given her expectation that an economic recovery would soon materialize. In her view, this would rekindle investors' concerns regarding inflation and bond yields would increase accordingly. In addition, Ms. McShane stated that her 9.75% estimate was related to a longer term bond typically used a benchmark for pricing corporate bonds.

As indicated earlier, the Board is concerned that Ms. McShane's expectation as to the possible extent of an economic recovery is overly optimistic. Accordingly, it is the Board's view that, given present circumstances, the current level of Government of Canada bond yields should be given considerable weight in the application of the equity risk premium test for the 1992 test year. Further, for the purposes of this test, the Board does not accept Ms. McShane's position that the relevant Government of Canada bond is a particular issue used as a benchmark for the pricing of new corporate bond issues. In the Board's view, the relevant base yield for the equity risk premium test is the average yield on all long term Government of Canada bonds available to investors. These represent the long term investment opportunities foregone by investors who choose to invest in common stocks. Moreover, their average value is available from an independent government agency.

In determining the fair rate of return from her application of the DCF and equity risk premium tests, Ms. McShane adds a flotation cost component to her estimate of the

IRR. She incorporates this increment to ensure that the financial integrity of the common shareholders' investment is maintained. Ms. McShane's increment would, in her view, permit the utility's shares, if publicly traded, to trade under normal conditions at prices in the order of 120% of their book value. In addition, share prices would be expected to remain above book value whenever new shares were issued.

Ms. McShane stated that the business risk of YECL exceeded that of a high grade utility attributing the difference to higher market demand risk and a higher supply risk.

She acknowledged on cross-examination that YECL's load did not have a high concentration of industrial sales, however, she indicated that YECL's market demand risk was higher due to the reliance of YECL's customers on the mining industry.

Ms. McShane acknowledged that no Board or Commission had allowed a common equity rate of return equal to her recommended fair rate of return. Nevertheless, none of the utilities for which she had testified had market prices below their book values.

4.4.1.2 Evidence of Mr. Parcell

Mr. David Parcell, appearing on behalf of Curragh Resources Inc., confined his analysis to the application of the comparable earnings and equity risk premium tests. It was

his position that he was unable to apply the DCF test in the Canadian context due to the absence of "pure" utilities in Canada.

Mr. Parcell acknowledged that both tests require the application of judgement. For his application of the comparable earnings test, Mr. Parcell indicated that judgement must be applied in developing a procedure to adjust the results obtained for industrial companies. In undertaking his comparable earnings analysis, Mr. Parcell relied upon two pieces of information, both of which incorporate the common book equity per share derived from each corporation's financial statements. The first item is the rate of return on common equity; the second is the ratio of per share market price to per share common book equity. Mr. Parcell was asked by the Board's consultant to comment on the implications of several accounting issues, all of which have implications for the values utilized by Mr. Parcell. Notwithstanding Mr. Parcell's responses, the Board is concerned that the accounting issues which impact on the interpretation of these data were not adequately addressed, particularly given that Mr. Parcell's market-to-book adjustment process also utilizes such data.

The Board is concerned with the efficacy of Mr. Parcell's methodology for estimating equity risk premiums. The Board finds it difficult to accept values for individual years as low as those estimated by Mr. Parcell for 1989 and 1990.

While the Board recognizes that Mr. Parcell relied upon the average for all years, the Board is not convinced that the individual values necessarily "average out" to a value in which sufficient confidence can be placed. Moreover, recognizing that the process is directed to establishing a fair rate of return for the 1992 test year, the Board would have expected, given Mr. Parcell's position that the premium depends on the stage reached in the business cycle, that Mr. Parcell would have established the value appropriate to the likely to be reached stage in the business cycle in 1992.

With respect to the degree of confidence to be placed in Mr. Parcell's beta value adjustments, Mr. Parcell acknowledged that he had not examined the "standard error of estimate" of the regression estimates. The Board notes that the "R-squared" values reported by Ms. McShane for her beta values (the latter utilized by Mr. Parcell in his testimony), are very low. The Board considers that these values indicate that Mr. Parcell's adjustment process - relying as it does on only one measure of risk - is built on a statistical foundation of questionable worth.

4.4.2 Board's Position

After giving due consideration to the evidence and argument presented in connection with the general rate application, the Board has concluded that a fair rate of return on common equity of a high grade utility with a common

equity ratio of approximately 35% is 12.75% for each of the years 1991 and 1992.

The Board has also concluded that YECL's business risk does not differ materially from that of a high grade utility. The Board considers that there is ample opportunity for YECL to make application to the Board for rate relief in the event that the Company perceives that the closure of a mine would have a detrimental effect on its revenues.

Accordingly, the Board has determined that a fair rate of return, on the portion of YECL's rate based deemed to be financed by common equity, is 12.75% for each of the tests years 1991 and 1992.

5. ELECTRIC UTILITY REVENUE REQUIREMENT

5.1 Fuel Expense

5.1.1 Fuel Price

YECL forecast an average cost per litre of fuel of 31.0 cents and 32.7 cents for 1991 and 1992 respectively. During cross-examination Company witnesses indicated that the 1991 and 1992 fuel prices were forecast to increase by 5% and 6% respectively. These increases were based on the forecast inflation rate plus 1%.

During cross-examination the Company witnesses stated the following with respect to the forecast cost of fuel for 1991:

"Due to the very high prices resulting from the Gulf War in the later part of 1990 and the effects that are still being felt in the early

part of 1991 in the first couple of months, since April this year, the price, the variance has been relatively small. We have had a slightly positive variance, a favourable variance.

For the Yukon, in January a price variance accrued of \$230,000, in February it was \$98,000, and now we are running favourable at approximately \$10,000 a month. So it's reasonably close for the remainder of '91 after the prices stabilized." (Tr.783)

In response to a question by the Board's consultant, Company witnesses indicated the following with respect to the forecast increase in fuel costs for 1992:

"Q. Given current economic circumstances, how can you be satisfied that the fuel prices will increase in 1992?

A. MR. LAKE: We don't know that they will increase in 1992. We made this estimate in the fall of 1990 and revisited it in the early spring of 1991. It was our assessment that the fuel price forecast that we had started with in the original preparation of this application would be just as valid as any other forecast we could come up with at that time." (Tr.868)

Company witnesses also acknowledged that if actual fuel costs exceed those included in basic electric rates, the difference can be recovered by the Company through Rider F of the Company's tariff.

The witnesses also stated that if the forecast prices turned out to be too high the Company and, hence, the shareholders would have the use of customer supplied funds until it was returned by application of Rider F.

Curragh in its argument submitted:

"Moreover, having insulated the shareholder from forecast risk through the introduction of Rider F, the forecasts put forth in the GRA should not be allowed to provide an indirect cash flow benefit to the shareholder."
(Page 20)

Based on the evidence the Board is satisfied that the forecast fuel price for 1991 is reasonable. However, the Board considers that the Company has not provided sufficient evidence to support a 6% increase in fuel prices in 1992. The Board is also concerned that if the 1992 forecast fuel cost per litre is too high the Company would have the use of customer supplied funds until they were returned by the application of Rider F.

The Board has used 1991 fuel prices for purposes of determining the Company's 1992 revenue requirement.

For purposes of determining the forecast average fuel cost in 1992 the Board has used the methodology set forth by the Company in Exhibit 8-40.

For purposes of determining the 1992 revenue requirement the Board has assumed an average cost of fuel per litre of 30.84 cents. This average price reflects the fuel forecast to be consumed in each location in 1992. The use of the 1991 price results in a decrease in the 1992 revenue requirement of approximately \$102,000.

5.1.2 Reasonableness of Fuel Costs

Curragh, in its argument, expressed concern about the reasonableness or prudence of the fuel costs incurred by the Company. Curragh's concern was based on the fact that the price paid for fuel by Curragh at the Faro Mine is less than the price paid by YEC for fuel used at Faro and that YECL and YEC purchase fuel jointly. During cross-examination Company witnesses indicated that:

"It has been their experience over the years that it has always been preferable, namely cheapest to all the customers, to pick one supplier out of those bids supplying the whole package." (Tr.863)

Company witnesses also stated YEC is not purchasing diesel from White Pass at Faro because:

"... in looking at the total consumption for the YEC communities, the fuel prices from Petro-Canada were lower than the fuel price or fuel costs which would result from awarding the contract to White Pass." (Tr.811)

Curragh submitted in its argument that the Company should be required to submit relevant cost information to demonstrate that its fuel costs have been prudently incurred. Curragh further submitted that in the interim a downward adjustment of 10% to diesel fuel prices should be made in determining the 1991 and 1992 revenue requirement.

The Board recognizes that fuel costs are a significant part of the Company's revenue requirement and is concerned that the Company may not be achieving the lowest possible fuel cost. The Board directs the Company to re-examine its

tendering process and to provide evidence at the time of its next general rate application which demonstrates that the Company is achieving the lowest possible fuel costs for all electrical customers in Yukon. YECL should provide details of the tendering procedures used, suppliers approached and the saving (cost) comparisons between purchasing fuel for all locations from one supplier and utilizing different suppliers for different locations.

5.1.3 Fuel Efficiency

YECL has included in its Application capital expenditures for replacement diesel generating units in Beaver Creek, Old Crow and Pelly Crossing. Company witnesses indicated these units are being replaced with units with larger capacities because the old units are becoming unreliable, have poor fuel efficiencies and the additional capacity will meet future load growth.

The City of Whitehorse noted in its argument that one would expect that with the replacement of old units with more fuel efficient generators the Company should achieve a better fuel rate. However, YECL's fuel rate of 3.6 kWh's per litre has not changed since 1988 (Schedule 18, Tab 5). The City of Whitehorse submitted that YECL's fuel rate should be adjusted to the same rate as that forecast by YEC in 1992 (3.7 kWh's per litre).

YECL in its reply argument made the following submission:

"There is no rationale for setting one company the same as the other. There are different sizes and ages of units serving different purposes. Further, fuel efficiency improvements occur on a Company wide basis in terms of tenths or hundredths of a percentage point. Therefore, the suggestion of the City of Whitehorse is not reasonable.

Yukon Electrical believes the engine replacements will lead to improved fuel efficiencies in the future and result in savings to the electrical consumer. Diesel fuel efficiencies will be monitored."
(Page 4)

The Board concurs with the Company that using another company's fuel rate is inappropriate due to the utilization of different sizes and ages of diesel generating units. However, the Company is concerned that the replacement of old units with more fuel efficient units has not resulted in an improvement in the Company's fuel rate. Accordingly, the Board directs the Company to monitor fuel efficiencies carefully and to reflect any efficiencies realized from the replacement of units in its future revenue requirements. If the replacement of old units does not result in an improved fuel rate, the Company is directed to provide a full explanation at the time of its next general rate application.

The Company is also directed to provide the Board with data respecting the stacking order of units at each location at the time of its next general rate application.

5.2 Operating and Maintenance Expense

5.2.1 Rate of Inflation Forecast

In response to an information request the Company indicated it had assumed 4% and 5% inflation factors to forecast operating and maintenance expenses for 1991 and 1992 respectively.

During cross-examination the Company's witness, Ms. McShane, indicated that the general consensus was a 3.5% forecast rate of inflation for 1992.

In response to an undertaking the Company provided an analysis of the impact of a 3% inflation rate on the Company's 1992 forecast expenses. The Company provided four different calculations which showed the impact of inflation varying from \$5,500 to \$69,000.

In reviewing the calculations the Board concludes that there are three issues to be addressed with respect to the impact of the 1992 inflation rate on the Company's revenue requirement. The issues to be addressed are:

- (1) Should the 1992 operating and maintenance expenses be restated to reflect the actual inflation rate from October 1990 to October 1991 prior to adjusting for the 1992 forecast rate?
- (2) Should fuel expense be restated to reflect a lower forecast inflation rate? This issue was dealt with in Section 5.1.1.

- (3) What is the appropriate inflation rate to be used for the 1992 forecast?

The 1992 forecast was originally prepared on the basis of a 4% inflation rate in 1991 and a 5% inflation rate in 1992. Subsequently, the Company noted that the actual inflation rate from October 1990 - October 1991 was 5.5%.

Witnesses for both YECL and YEC made the following statement:

"Looking first at Yukon Electrical operating expenses, the items included here include labour, materials, services and supplies, parent allocations, insurance and property tax, and they exclude fuel and purchase power. For the filing, we had estimated costs to be in the range of \$4.1 million for those categories, and we're now estimating those costs to be approximately 4.4 million.

For YEC, the costs included here include labour, materials, supplies and services, YEC corporate costs, insurance and property tax, again excluding fuel. The initial estimate had been \$7.6 million, and we are still projecting at this time \$7.6 million."
(Tr.761)

YECL did not provide any specific details with respect to its revised forecast of \$4.4 million for operating expenses. However, in Exhibit 8-32 the Companies provided a combined detailed analysis of the changes in their 1991 costs. YECL did not propose that these changes be included in its 1991 revenue requirement.

The Board notes that the combined operating expenses were originally forecast to be \$11,700,000 and they are now forecast to be \$12,000,000. However, the \$12,000,000

includes \$280,000 for expenses not originally forecast. (Curragh Contract Negotiations of \$200,000 and Company Direct Hearing Costs of \$80,000.)

The Board is not persuaded that it is appropriate to adjust the 1991 forecast to reflect an inflation factor of 5.5% prior to adjusting the 1992 forecast.

The Board has concluded a 3.5% inflation rate is appropriate based on evidence provided by Ms. McShane.

The Board, for purposes of determining the 1992 revenue requirement has used a 3.5% inflation factor to forecast YECL's total other operating costs and parent allocations. The impact of the reduced rate for 1992 is a reduction in the Company's revenue requirement of approximately \$24,000 as shown on Schedule E.

5.2.2 Labour Costs

5.2.2.1 Operating and Maintenance Labour

YECL in response to an information request which was responded to on a joint basis by YECL and YEC, indicated that three new positions were required in 1992 due to a forecast increase in diesel generation.

In evidence filed in October 1991 the Companies reduced their 1992 combined revenue requirement on the basis of higher than expected 1991 water flows in the Aishihik system. YEC reduced its forecast 1992 diesel generation to approximately the same level as that forecast for 1991.

During cross-examination the Companies undertook to review their labour requirements for 1992 in light of the revised forecast diesel generation. YECL in its final argument explained that all three positions are required to meet the minimum acceptable operating requirements of the Whitehorse-Aishihik-Faro ("WAF") electrical grid in Yukon.

The Board is not persuaded that one of these positions will be required in 1992 given the amended forecast diesel generation. Accordingly, the Board has reduced YECL's 1992 operating expenses by \$50,000.

5.2.2.2 Human Resources Manager

During cross-examination Company witnesses explained that YECL had recruited a human resources manager to recruit staff and to identify and implement staff training programs.

YECL in its reply argument stated:

"(i) Human Resources Manager

The functions that have been transferred to the position of Human Resources manager were being performed by the senior supervisors and managers within Yukon Electrical. The role of Human Resources in Edmonton has remained essentially unchanged and these services are being used continuously. The creation of the position has allowed Yukon Electrical management to be more effective in the operation of the Company." (Page 8)

The Board notes that the role of Human Resources in Edmonton has remained essentially the same.

The Board is not persuaded that one additional person is required by the Company in 1991 and 1992 to provide human resources services. Accordingly, the Board has reduced YECL's 1991 and 1992 operating expenses by \$50,000.

5.2.2.3 Labour Productivity

The Board notes that there has been a continuous increase in labour costs since 1988 and further increases are forecast for the 1991 and 1992 test years.

The Board is concerned that the Company's increased labour costs may be excessive in relation to the services provided by the Company. Accordingly, the Board directs YECL to provide at the time of its next general rate application appropriate measures of labour productivity on an historical and forecast basis.

5.3 Depreciation Expense

For the reasons outlined in Section 3.3 of this Decision, the Board has reduced depreciation expense by \$40,000 for each of the years 1991 and 1992.

6. REGULATORY PROCESS

YEC in its argument made the following submission:

"YEC is concerned about the costs incurred during the application process. The cost of this exercise must ultimately be borne by the customers and therefore the Board should critically analyze the process which has taken

place since the applications were filed with a view to ensuring that costs can be minimized in future hearings." (Page 41)

The Whitehorse Chamber of Commerce also expressed concern with respect to the cost and complexity of the regulatory process.

The Board shares these concerns with respect to the cost and complexity of the regulatory process and will address this issue at the time of the upcoming cost of service review. All parties wishing to make representations to the Board on this subject are invited to do so at the time of the cost of service review.

7. INTERVENOR COSTS

YECL in its argument submitted that whatever the Board orders for intervenor costs should simply be added to 1992 rates either through an adjustment or through a direct flow-through rider.

The Board considers the most appropriate way to treat intervenor costs is to include an estimate for these costs in the 1992 revenue requirement. Any difference between the estimate and actual will be dealt with at the next general rate application.

For purposes of this Decision the Board has included \$100,000 for intervenor costs in YECL's 1992 revenue requirement. For practical purposes the Board has included

the full amount of costs in YECL's revenue requirement and has not attempted to split them between YECL and YEC.

The Board directs the intervenors to file detailed claims for their costs with the Board within thirty (30) days of this Decision. Claims should be made in the form required.

The Board directs the Company to provide to the Board at the time of the next general rate application a reconciliation between the actual intervenor costs awarded and \$100,000 and to recommend a disposition of this amount.

8. TOTAL REVENUE REQUIREMENT

The Board directs YECL to prepare a revised calculation of total utility revenue requirement for the test years 1991 and 1992 in accordance with this Decision and Decisions 1992-2 and 1992-4.

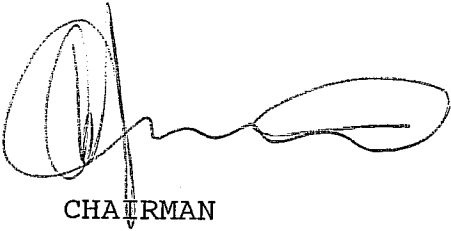
ORDER

NOW THEREFORE IT IS ORDERED THAT:

Yukon Electrical Company Limited shall prepare and file with the Board within thirty (30) days a revised calculation of total utility revenue requirement for the test years 1991 and 1992 in accordance with this Decision and Decisions 1992-1 and 1992-4.

DATED AT WHITEHORSE, YUKON this 17th day of January 1992.

YUKON UTILITIES BOARD

A handwritten signature in black ink, consisting of a large, stylized 'C' followed by a horizontal line and a small loop at the end.

CHAIRMAN

FOLLOWING ARE
SCHEDULES "A", "B", "C", "D" AND "E"

(Consisting of 9 Pages)

ATTACHED TO AND FORMING PART OF

YUKON UTILITIES BOARD

DECISIONS 1992-2

DATED JANUARY 17, 1992

YUKON UTILITIES BOARD



CHAIRMAN

YUKON ELECTRIC CORPORATION LIMITED

Schedule A
1 of 2

1991

RATE BASE

(\$ 000)

AS FILED

AS ALLOWED

	Previous Year -----	Current Year -----	Previous Year -----	Current Year -----
Plant				
Cost	35,324	41,875	35,324	41,875
Deduct:				
Accumulated Depreciation	11,985	13,558	11,985	13,518
Construction-in-progress	94	99	94	99
Dismantling reserve	52	520	52	520
	-----	-----	-----	-----
	23,193	27,698	23,193	27,738
	-----	-----	-----	-----
Mid-year net plant		25,446		25,466
Working capital		2,389		2,348
		-----		-----
		27,834		27,814
		-----		-----
Deduct:				
Contributions	6,758	7,496	6,758	7,496
	-----	-----	-----	-----
Mid-year contributions		7,127		7,127
		-----		-----
Net rate base		20,707		20,687
		=====		=====

YUKON ELECTRIC CORPORATION LIMITED

Schedule A

2 of 2

1992

RATE BASE

(\$ 000)

	AS FILED		AS ALLOWED	
	Previous Year -----	Current Year -----	Previous Year -----	Current Year -----
Plant				
Cost	41,875	48,778	41,875	48,778
Deduct:				
Accumulated Depreciation	13,558	15,317	13,518	15,237
Dismantling reserve	99	104	99	104
Construction-in-progress	520	4,065	520	4,065
	-----	-----	-----	-----
	27,698	29,292	27,738	29,372
	-----	-----	-----	-----
Mid-year net plant		28,495		28,555
Working capital		2,608		2,452
		-----		-----
		31,103		31,007
		-----		-----
Deduct:				
Contributions	7,496	7,946	7,496	7,946
	-----	-----	-----	-----
Mid-year contributions		7,721		7,721
		-----		-----
Net rate base		23,382		23,286
		=====		=====

YUKON ELECTRIC CORPORATION LIMITED

Schedule B

1991

1 of 2

WORKING CAPITAL ALLOWANCE

(\$ 000)

	AS FILED	AS ALLOWED
Operating & Maintenance expenses	17,658	17,614
Taxes - other than income	183	183
	-----	-----
Cash operating expenses	17,841	17,797
	-----	-----
20/365 thereof	978	975
	-----	-----
Prior year income tax provision	852	852
	-----	-----
36/365 thereof 33/365 thereof	84	77
	-----	-----
Final income tax installment		58
	-----	-----
-194/365 thereof		(31)
	-----	-----
Inventory (three year average)	1,327	1,327
	-----	-----
Working capital	2,389	2,348
	=====	=====

YUKON ELECTRIC CORPORATION LIMITED

Schedule B

1992

2 of 2

WORKING CAPITAL ALLOWANCE

(\$ 000)

	AS FILED	AS ALLOWED
Operating & Maintenance expenses	19,745	19,627
Taxes - other than income	192	192
Cash operating expenses	19,937	19,819
20/365 thereof	1,100	1,086
Prior year tax provision	980	908
36/365 thereof 33/365 thereof	97	82
Final income tax instalment		239
194/365 thereof		(127)
Inventory (three year average)	1,411	1,411
Working capital	2,608	2,452
	=====	=====

YUKON ELECTRIC CORPORATION LIMITED

Schedule C

1 of 2

1991

CAPITAL STRUCTURE AND COST OF CAPITAL

(\$ 000)

	AS FILED				
	MID YEAR BALANCE	CAPITAL RATIOS	MID-YEAR RATE BASE	COST RATE	RETURN
	\$	%	\$	%	\$
Long term debt	9,011	41.514	8,596	11.511	990
Preferred shares	4,940	22.759	4,713	8.561	403
Common shares	7,408	34.129	7,067	14.000	989
No cost capital	347	1.599	331		
	-----	-----	-----	-----	-----
	21,706	100.000	20,707	11.505	2,382
	=====	=====	=====	=====	=====

	AS ALLOWED				
	MID YEAR BALANCE	CAPITAL RATIOS	MID-YEAR RATE BASE	COST RATE	RETURN
	\$	%	\$	%	\$
Long term debt	9,011	41.514	8,588	11.511	989
Common shares	4,940	22.759	4,708	8.561	403
No cost capital	7,408	34.129	7,060	12.750	900
	347	1.599	331		
	-----	-----	-----	-----	-----
	21,706	100.000	20,687	11.078	2,292
	=====	=====	=====	=====	=====

1992

CAPITAL STRUCTURE AND COST OF CAPITAL

(\$ 000)

	AS FILED				
	MID YEAR BALANCE	CAPITAL RATIOS	MID-YEAR RATE BASE	COST RATE	RETURN
	\$	%	\$	%	\$
Long term debt	10,511	39.233	9,173	11.425	1,048
Preferred shares	6,440	24.038	5,620	8.53	479
Common shares	9,422	35.169	8,223	14.750	1,213
No cost capital	418	1.560	365		
	-----	-----	-----	-----	-----
	26,791	100.000	23,382	11.719	2,740
	=====	=====	=====	=====	=====

	AS ALLOWED				
	MID YEAR BALANCE	CAPITAL RATIOS	MID-YEAR RATE BASE	COST RATE	RETURN
	\$	%	\$	%	\$
Long term debt	10,511	39.233	9,136	11.302	1,033
Preferred shares	6,440	24.038	5,597	8.53	477
Common shares	9,422	35.169	8,189	12.750	1,044
No cost capital	418	1.560	363		
	-----	-----	-----	-----	-----
	26,791	100.000	23,286	10.967	2,554
	=====	=====	=====	=====	=====

1991

OPERATING AND MAINTENANCE EXPENSES

(\$ 000)

	AS FILED	AS ALLOWED
Operating and maintenance expenses		
Production	988	988
Transmission & distribution	1,033	1,033
General	130	130
Public information	113	113
Commercial	648	648
Administration	546	546
Fuel	1,625	1,625
Purchased power	12,159	12,159
Parent allocations	384	384
Insurance	38	38
Labour adjustment		(50)
	-----	-----
Total operating & maintenance expenses	17,658	17,614
Taxes - other than income	183	183
Depreciation	1,309	1,269
Income taxes	985	908
	-----	-----
Total utility expenses	20,135	19,974
	=====	=====

YUKON ELECTRIC CORPORATION LIMITED

Schedule D

1992

2 of 2

OPERATING AND MAINTENANCE EXPENSES

(\$ 000)

	AS FILED	AS ALLOWED
Operating and maintenance expenses		
Production	1,097	1,097
Transmission & distribution	1,091	1,091
General	139	139
Public information	99	99
Commercial	716	716
Administration	638	638
Fuel	1,802	1,700
Purchased power	13,721	13,721
Parent allocations	408	408
Insurance	42	42
Inflation adjustment		(24)
Labour adjustment		(100)
Intervenor costs		100
	-----	-----
Total operating & maintenance expenses	19,745	19,627
Taxes - other than income	192	192
Depreciation	1,453	1,413
Income taxes	1,162	1,147
	-----	-----
Total utility expenses	22,552	22,379
	=====	=====

YUKON ELECTRIC CORPORATION LIMITED

Schedule E

1 of 1

1992

CALCULATION OF IMPACT OF INFLATION ON OPERATING EXPENSES

	AS FILED	AS ALLOWED
	1992 EXPENSES	1992 EXPENSES
Total other	1,228	1,210
Parent allocations	408	402
	-----	-----
	1,636	1,612
	=====	=====
Inflation rate assumed	5%	3.5%