# NORTHWEST TERRITORIES LEGISLATIVE ASSEMBLY RETIRING ALLOWANCES ACT

## ACTUARIAL VALUATION AS AT APRIL 1, 1992

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LEGISLATIVE ASSEMBLY
RETIRING ALLOWANCES ACT**

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# I. SUMMARY

## A. *Purpose*

This is a report on the actuarial valuation of the Northwest Territories Legislative Assembly Retiring Allowances Act as at April 1, 1992.

The purposes of this actuarial valuation are to determine:

1. the Plan's funded position;
2. the cost of benefits accruing after the valuation date; and
3. the contributions required after the valuation date.

## B. *Assets*

The actuarial value of the Plan's assets as at April 1, 1992 is $8,423,000. This compares to $5,932,000 at the previous valuation two years ago.

Based on market values, the assets earned 6.4% during the year ending March 31, 1992.

## C. *Funded Position*

At April 1, 1992, the Plan has a surplus of $1,898,000. At April 1, 1990, the Plan had a surplus of $1,033,000.

## D. *Reasons for Changes in Funded Position*

The improvement in the Plan's funded position is a result of several factors:

1. Higher than expected contributions by the Assembly, and
2. Actuarial experience.

## E. *Cost of Accruing Benefits*

The cost of benefits to be earned in the 1992/93 year is estimated to be $542,000. This represents 28.1% of the $1,928,000 payroll for the year. Member contributions to the Plan will provide $174,000 of this cost.

## F. *Total Required Contribution*

If the Plan's surplus is amortized over the average remaining service life of the group (11 years) and used to reduce the Assembly's cost of accruing benefits, the contribution required in 1992/93 is $100,000 or 5.3% of pay.

## II. PARTICIPANT DATA

### A. *Source of Participant Data*

Basic participant data as at April 1, 1992 was obtained from our administrative records. Current earnings information was provided by the Management Services Board. The data was reviewed to ensure its completeness, accuracy and consistency with the data used in the previous valuation.

### B. *Changes in Plan Membership*

The following schedule shows the changes in Plan Membership since the previous valuation of the Plan at April 1, 1990. The main reason for the change in active members was the election held in October, 1991.

| | *Active* | *Deferred Vested* | *Deferred Not Vested* | *Pensioners* |
|---|---|---|---|---|
| **Members at April 1, 1990** | 24 | 3 | 6 | 5 |
| New Members | 9 | 1 | | |
| Retirements | (8) | | | 8 |
| Termination of Employment | (1) | | 1 | |
| **Members at April 1, 1992** | 24 | 4 | 7 | 13 |

One former member, Mr. Searle, was added as a deferred vested member of the Plan. His membership ceased in November, 1979 but he had not been previously counted as a deferred vested member.

One active member, Mr. Crow, terminated before he was fully vested and thus received a return of his contributions credited with the prescribed interest. He has been treated as a deferred non-vested member.

## C. *Characteristics of Participant Data*

The following table illustrates key characteristics of the data used for the valuation. Comparative information has been provided for the previous valuation. Summaries of the valuation data are provided in Appendix B.

| | *April 1, 1992* | *April 1, 1990* |
|---|---|---|
| **Active Members** | | |
| • number | 24 | 24 |
| • average age | 44.0 | 45.1 |
| • average credited service | 4.7 | 6.4 |
| **Deferred Vested** | | |
| • number | 4 | 3 |
| • average age | 48.9 | 44.7 |
| • average monthly deferred pensions | $649 | $727 |
| **Deferred Not Vested** | | |
| • number | 7 | 6 |
| • average age | 48.0 | 46.0 |
| • average monthly deferred pensions | $332 | $291 |
| **Pensioners** | | |
| • number | 13 | 5 |
| • average age | 55.8 | 60.4 |
| • average monthly pensions | $1,062 | $972 |

Eight members retired at the end of the last term, and one terminated. They have all been replaced by newly-elected members. The drop in average pensioner age is due to these eight new retirees.

The drop in average pension and the increase in average age for deferred vested members is due to Mr. Searle's inclusion in the valuation.

## III. FINANCIAL DATA

### A. *Description of Plan Assets*

At the valuation date, the Plan assets are held by Confederation Life and are invested in their pooled balanced fund. In addition, $524,000 of NWT bonds are also held by the Plan. After the valuation date, the assets were transferred to Canada Trust.

At April 1, 1992, the assets were invested in the categories shown in the table below.

| | *Market Value at April 1, 1992* ($) | % | *Market Value at April 1, 1990* ($) | % |
|---|---|---|---|---|
| **Equity** | | | | |
| Canadian Equity Fund | 2,901,793 | 36 | 1,832,341 | 32 |
| Foreign Equity Fund | 1,221,156 | 15 | 595,366 | 10 |
| **Fixed Income** | 3,238,682 | 40 | 2,156,035 | 37 |
| **Real Estate** | 612,755 | 8 | 606,927 | 11 |
| **Short-Term (Cash)** | 103,667 | 1 | 589,586 | 10 |
| **Accrued Investment Income** | 10,112 | 0 | | |
| | 8,088,165 | 100 | 5,780,255 | 100 |

### B. *Changes to Plan Assets*

The following table shows changes to Plan assets since the previous valuation.

| | *1991/92* $ | *1990/91* $ |
|---|---|---|
| Market Value at April 1 | 7,045,448 | 5,780,255 |
| **PLUS:** | | |
| Contributions: | | |
| Member | 175,864 | 138,736 |
| Assembly | 555,000 | 555,000 |
| Investment Income | 505,653 | 659,310 |
| **LESS:** | | |
| Pension Payments | (130,802) | (56,109) |
| Lump Sum Payments | (8,763) | |
| Transfer of Voluntary Contributions | (16,568) | |
| Fees and Expenses | (37,667) | (31,744) |
| Market Value at March 31 | 8,088,165 | 7,045,448 |

## C. *Actuarial Value of Assets*

In determining the Plan's funding position, we use an asset valuation method which smooths the impact of short term fluctuations in the market value of the assets. The methods does this by recognizing the difference between the fund's actual and expected investment earnings gradually over a four year period.

The fund's investment earnings net of expenses (including realized and unrealized gains) are compared below to expected investment earnings:

| | *1991/92* | | *1990/91* | |
|---|---|---|---|---|
| | *$* | *%* | *$* | *%* |
| Net investment earnings: | | | | |
| Actual | 467,986 | 6.4 | 627,566 | 10.3 |
| Expected | 769,192 | 10.50 | 715,600 | 11.75 |
| Excess of actual over expected | (301,206) | | (88,034) | |

The actuarial asset value is then obtained by deducting from the current market value the portion of the investment gains (losses) which our method has not yet recognized.

| | |
|---|---|
| Market value at April 1, 1992 | $8,088,165 |
| Adjustment for investment losses not yet fully recognized | |
| 1990: 1/4 x ($202,282) = ($50,571) | $50,571 |
| 1991: 1/2 x ($88,034) = ($44,017) | $44,017 |
| 1992: 3/4 x ($301,206) = ($225,905) | $225,905 |
| Actuarial value at April 1, 1992 | $8,408,658 |

$320,493 of investment losses has not yet been recognized in the smoothed actuarial asset value. The actuarial asset value equals 104% of the market value.

## D. *Adjustment for Receivables/Payables*

The value of the assets are further adjusted for contributions outstanding at the valuation date. As of April 1, 1992 the Plan has $13,844 of contributions receivable. There are no benefits payable. The adjusted actuarial asset value of the Plan is therefore $8,422,502.

## E. *Rate of Return*

Based on market values the Plan assets earned the following annualized rates of return net of investment management fees and other expenses charged to the fund.

| *Year* | *Investment Return* % |
|---|---|
| 1991/92 | 6.4 |
| 1990/91 | 10.3 |
| 1989/90 | 4.2 |

## IV. CHANGES AFFECTING PLAN FUNDING

### A. *Actuarial Assumptions*

In this valuation a number of the economic assumptions have been changed. The economic assumptions have been updated to make them representative of current economic conditions in the near term. A list of these changes in contained in Section IX.

### B. *Mr. Searle*

Mr. Searle was not previously known to be entitled to benefits from the Plan; his inclusion in this valuation resulted in an unexpected increase in the Plan's liabilities.

### C. *Effect of Changes*

The effect of the above changes on the Plan's funded position and cost of accruing benefits is shown in Subsections V.B and V.C. respectively.

## V. VALUATION RESULTS

### A. *Funded Position*

The following table shows the Plan's funded position at April 1, 1992 and at the date of the previous valuation. The funded position is measured by comparing the Plan's actuarial liabilities to the actuarial value of assets. Where assets exceed liabilities, the Plan has a surplus. Otherwise, the Plan has an unfunded actuarial liability.

| | | *April 1, 1992* $ | *April 1, 1990* $ |
|---|---|---|---|
| **Accrued Liabilities** | | | |
| In respect of: | | | |
| 1. | Active Members | | |
| | MLA Benefits | 1,655,000 | 2,199,000 |
| | Ministerial Benefits | 495,000 | 666,000 |
| | Other Positions | 12,000 | 18,000 |
| | Deferred Entitlements | 453,000 | 367,000 |
| | Subtotal | 2,615,000 | 3,250,000 |
| 2. | Deferred Vested Members | 510,000 | 402,000 |
| 3. | Deferred Non-Vested Members | 239,000 | 166,000 |
| 4. | Pensioners | 3,082,000 | 996,000 |
| 5. | Voluntary Contributions | 79,000 | 85,000 |
| (A) | Total Accrued Liabilities | 6,525,000 | 4,899,000 |
| **Assets** | | | |
| 1. | Adjusted Value of Plan Assets | 8,409,000 | 5,932,000 |
| 2. | Contributions Receivable | 14,000 | 0 |
| 3. | Benefits Payable | 0 | 0 |
| (B) | Total Assets | 8,423,000 | 5,932,000 |
| **Surplus** | | 1,898,000 | 1,033,000 |
| (B) - (A) | | | |

The factors contributing to the change in funded position are summarized in the following subsection.

## B. *Changes in Funded Position*

The following schedule summarizes (approximately) the changes in the Plan's funded position between April 1, 1990 and April 1, 1992.

| | | |
|---|---|---|
| **Surplus at April 1, 1990** | | **$1,033,000** |
| Increased by: | | |
| 1. | Contributions by Assembly greater than expected | 476,000 |
| 2. | Gains due to deaths, terminations and retirements | 249,000 |
| 3. | Interest on surplus | 243,000 |
| 4. | Salary increases less than expected | 198,000 |
| 5. | Change in assumptions | 83,000 |
| Deceased by: | | |
| 1. | Investment experience | (265,000) |
| 2. | Inclusion of Mr. Searle | (54,000) |
| 3. | Miscellaneous | (65,000) |
| **Surplus at April 1, 1992** | | **$1,898,000** |

## C. *Cost of Benefits Earned after Valuation Date*

The following table shows the estimated annual cost of accruing benefits for the current and previous valuations:

| | 1992/93<br>$ | 1990/91<br>$ |
|---|---|---|
| Estimated annual cost of accruing benefits | 542,000 | 471,000 |
| Member contributions | 174,000 | 155,000 |
| Assembly's cost of accruing benefits | 368,000 | 316,000 |
| As a % of covered payroll | 19.1% | 17.3% |

The factors contributing to the change in the cost of accruing benefits are shown below:

| | | |
|---|---|---|
| 1. | Cost of accruing benefits as a percentage of covered payroll at April 1, 1990 | 17.3% |
| 2. | Changes in plan membership | 2.2 |
| 3. | Changes to actuarial assumptions | (0.4) |
| 4. | Cost of accruing benefits as a percentage of covered payroll at April 1, 1992 | 19.1% |

## D. *Required Contributions*

The Plan has a surplus, so no special payments are required in the coming year. If the surplus is amortized over 11 years, the expected average remaining service life of the group, the contributions required are:

| | |
|---|---|
| Estimated annual cost of accruing benefits | $368,000 |
| LESS | |
| Amortization of $1,898,000 surplus over 11 years | (266,000) |
| Net annual cost of accruing benefits | $102,000 |
| As a % of covered payroll | 5.3% |

Alternatively, the Assembly may use the surplus by discontinuing contributions to the Plan until the next actuarial valuation. If the Assembly was a taxable employer, further tax-deductible contributions to the Plan would not be permitted by Revenue Canada due to the size of the surplus.

## VI. ACTUARIAL CERTIFICATION

In our opinion:

A. The data on which this report is based are sufficient and reliable for the purposes of the valuation;

B. The assumptions used are adequate and appropriate for the purposes of the valuation;

C. The methods employed are consistent with sound actuarial principles; and

D. The valuation complies with the requirements specified in subparagraph 147.2(2)(a)(iii) and (iv) of the Income Tax Act.

Nonetheless, emerging experience differing from the assumptions will result in gains or losses which will be revealed in future valuations.

This report has been prepared and our opinions given in accordance with generally accepted actuarial principles and the Recommendations of the Canadian Institute of Actuaries.

Respectfully submitted for
The Coles Group Consultants Ltd.

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November, 1992

# *APPENDICES*

# VII. APPENDIX A - SUMMARY OF PLAN PROVISIONS LEGISLATIVE ASSEMBLY RETIRING ALLOWANCES ACT

This summary contains the main provisions of the Northwest Territories Legislative Assembly Retiring Allowances Act as at April 1, 1992. For the precise details of the plan's provisions, reference should be made to the ***Legislative Assembly Retiring Allowances Act***.

1. **Effective Date**

   October 1, 1979.

2. **Eligibility**

   All Members of the Legislative Assembly are Members of the Plan.

3. **Contributions**

   Members contribute 9% of earnings to the fund.

4. **Credited Service**

   Service since March 10, 1975 not exceeding 15 years. However, the valuation has been performed including a proposed amendment which will eliminate the 15 year maximum.

5. **Normal Retirement Age**

   Age 55.

6. **Early Retirement**

   At any time upon ceasing to be a Member of the Assembly.

7. **Late Retirement**

   Up to age 71.

8. **Retirement Pension**

   2 percent of the average best earnings over four consecutive years as an M.L.A. multiplied by Credited Service as an M.L.A.

   PLUS

   2 percent of the average best earnings over four consecutive years in each of the positions of Minister, Speaker or Chairperson multiplied by Credited Service for each position. A position must be held for at least one year for a pension to be paid, and the pension for each position is calculated separately.

Members who retire before age 55 receive a pension which is actuarially equivalent to the pension calculated as if they were 55. Former members who commence receiving a pension after age 55 also receive an actuarially equivalent pension.

**9. Increases in Pension**

Pensions in pay and deferred pensions are increased every January 1 based on increases in the Consumer Price Index up to the preceding September 30.

**10. Form of Pension**

The normal form of payment is a joint and 75% survivor pension reducing on the death of the Member. If a Member is not married, a lifetime annuity guaranteed for 10 years will be paid.

Each dependent will receive a pension of 10% of the retirement pension (to a maximum total of 25%) if the spouse survives. If there is no surviving spouse, a benefit of 25% of the retirement pension (to a maximum total of 100%) will be paid to each dependent.

**11. Pre-Retirement Death Benefits**

If a Member or Former Member dies before retirement and is not eligible to receive a pension, his accumulated contributions with interest will be returned to the beneficiary. If he was eligible to receive a pension, the spouse will receive a lifetime annuity of 75% of the retirement pension.

**12. Withdrawal Benefits**

A Member who terminates with less than six years of service will receive a lump sum payment of the accumulated contributions with interest. A member who terminates with six or more years of service is entitled to a retirement pension.

## VIII. APPENDIX B - PARTICIPANT DATA

### A. *Active Members*

The following tables summarize the key data by age group and sex for Active Members as at April 1, 1992.

**Males**

| *Age Group* | *Number* | *Average Credited Service as a MLA* |
|---|---|---|
| 30-34 | 2 | 2.48 |
| 35-39 | 3 | 7.16 |
| 40-44 | 6 | 4.46 |
| 45-49 | 8 | 4.28 |
| 50-54 | 1 | 3.42 |
| 55-59 | 1 | 4.49 |
| Total | 21 | 4.54 |

**Females**

| *Age Group* | *Number* | *Average Credited Service as a MLA* |
|---|---|---|
| 30-34 | - | - |
| 35-39 | 1 | 4.49 |
| 40-44 | 1 | 0.46 |
| 45-49 | - | - |
| 50-54 | 1 | 12.50 |
| 55-59 | - | - |
| Total | 3 | 5.82 |
| **Grand Total** | **24** | **4.70** |

## B. *Age and Service Table - Active Members*

The following table shows the distribution of active members by age and service groups as at April 1, 1992.

*Years of Credited Service as an M.L.A.*

| *Average Age* | *0-1* | *1-5* | *5-10* | *10-15* | *15+* | *Total* |
|---|---|---|---|---|---|---|
| 30-34 | 1 | 1 | | | | 2 |
| 35-39 | | 3 | | 1 | | 4 |
| 40-44 | 4 | 1 | 1 | 1 | 1 | 7 |
| 45-49 | 4 | 2 | 1 | | | 8 |
| 50-54 | | 1 | | 1 | | 2 |
| 55-59 | | 1 | | | | 1 |
| Total | 9 | 9 | 2 | 3 | 1 | 24 |

## C. *Pensioners*

The following table summarizes the data for Pensioners as at April 1, 1992 grouped by age.

| *Age* | *Male* | *Female* | *Average Monthly Pension* $ | *Form of Pension* |
|---|---|---|---|---|
| 40-44 | 1 | - | 772 | Joint and 75% survivor |
| 45-49 | 1 | - | 1,094 | Single life, guaranteed 10 years |
| | 2 | - | 933 | Joint and 75% survivor |
| 50-54 | 1 | - | 1,094 | Joint and 75% survivor |
| 55-59 | 1 | - | 1,193 | Single life, guaranteed 10 years |
| | 1 | - | 706 | Single life guaranteed 15 years |
| | 1 | - | 273 | Joint and 75% survivor |
| 60-64 | 2 | - | 1,566 | Joint and 75% survivor |
| 65-69 | - | 1 | 657 | Life only |
| | 1 | - | 2,415 | Joint and 75% survivor |
| 70-74 | 1 | - | 603 | Joint and 75% survivor |
| Total | 12 | 1 | 1,062 | |

### D. *Deferred Vested Members*

The following table summarizes the data for Deferred Vested Members as at April 1, 1992 grouped by age.

| *Age* | *Male* | *Female* | *Average Monthly Defined Pension* $ |
|---|---|---|---|
| 45-49 | 3 | - | 807 |
| 50-54 | - | - | - |
| 55-60 | 1 | - | 174 |
| Total | 4 | 0 | 649 |

### E. *Deferred Non-Vested Members*

the following table summarizes the data for Deferred Non-Vested Members as at April 1, 1992 grouped by age.

| *Age* | *Male* | *Female* | *Average Monthly Defined Pension* $ |
|---|---|---|---|
| 40-44 | 2 | - | 380 |
| 45-49 | 3 | - | 310 |
| 50-54 | 1 | - | 336 |
| 55-59 | - | 1 | 296 |
| Total | 6 | 1 | 332 |

## IX. APPENDIX C - ASSUMPTIONS

A. The assumptions employed for purposes of this valuation are described below.

### 1. Economic Assumptions

#### a. *Interest Rate*

The present value of projected future benefit payments has been determined by discounting for interest at the following rates:

8.00% per annum

8.0% per annum represents the pension fund's anticipated long term rate of investment return, net of investment management expenses. A short term interest rate of 8.0% was felt to be reasonable in light of recent decreases in interest rates.

#### b. *Salary Increases*

Overall salary levels have been assumed to increase by the following percentages, which are equal to the assumed increases in the cost of living:

3.0% per annum for three years
5.5% per annum thereafter

The change in salary increase assumptions was made to be consistent with the inflation assumption.

#### c. *Post Retirement Increases*

Pensions in pay are assumed to increase with inflation each year. The short term inflation assumption was lowered to 3.0% to reflect the current low level of inflation, but which is still expected to increase to the same long term level of 5.5%.

3.0% per annum for three years
5.5% per annum thereafter

#### d. *Interest Credited on Contributions*

8.00% per annum

## 2. Demographic Assumptions

### a. *Mortality*

The standard table of mortality rates known as the 1983 Group Annuity Mortality Table has been used to represent the mortality of members both before and after retirement.

### b. *Termination of Plan Membership*

No allowance has been made for the possibility of a member terminating plan membership prior to retirement for reasons other than death.

### c. *Re-election*

Members who terminate and are non-vested are assumed to have a 50% chance of being re-elected and recommencing their membership in the Plan.

### d. *Retirement Age*

Members of the Assembly were assumed to retire at the later of age 55 and completing six years of service and the end of the current session (in four years).

### e. *Disablement*

No explicit allowance has been made for the possibility that an active member will become disabled.

### f. *Proportion Married*

100% of all members have been assumed to be married at retirement.

### g. *Age Difference Between Spouses*

Females are assumed to be two years younger than their male spouses.

### h. *Dependent Children's Ages*

It was assumed that if a dependent child's benefit is payable, it will be payable for 10 years, on average.

# X. APPENDIX D - ACTUARIAL COST METHOD

## A. *Cost Method for Liabilities*

The actuarial liability and cost of benefits earned after the valuation date have been determined using the Accrued Benefit (or Unit Credit) Actuarial Cost Method with projected salaries.

The annual cost determined by this method is sensitive to changes in the age distribution of the Plan members increasing if the group matures and decreasing if the average age of the group reduces. When using this method, it is generally assumed that turnover in the group and the election of new members will ensure a relatively stable age distribution.

## B. *Asset Valuation Method*

Plan assets have been valued by a smoothing method which spreads the difference between actual and expected investment income over a four year period.

# NORTHWEST TERRITORIES LEGISLATIVE ASSEMBLY SUPPLEMENTARY RETIRING ALLOWANCES ACT

# ACTUARIAL VALUATION AS AT APRIL 1, 1992

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**NORTHWEST TERRITORIES**
**LEGISLATIVE ASSEMBLY**
**SUPPLEMENTARY RETIRING**
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# I. SUMMARY

## A. *Purpose*

This is a report on the actuarial valuation of the Northwest Territories Legislative Assembly Supplementary Retiring Allowances Act as at April 1, 1992.

The purposes of this actuarial valuation are to determine:

1. the Plan's funded position;
2. the cost of benefits accruing after the valuation date; and
3. the contributions required after the valuation date.

## B. *Assets*

The actuarial value of the Plan's assets as at April 1, 1992 is $6,551,000. This compares to $271,000 at the previous valuation two years ago.

Based on market values, the assets earned 10.5% during the year ending March 31, 1992.

## C. *Funded Position*

At April 1, 1992, the Plan has an unfunded liability of $2,998,000. At April 1, 1990, the Plan had an unfunded liability of $4,601,000.

## D. *Reasons for Changes in Funded Position*

The improvement in the Plan's funded position is a result of several factors:

1. Special past service payments;
2. Higher than expected contributions by the Assembly; and
3. Actuarial experience.

## E. *Cost of Accruing Benefits*

The cost of benefits to be earned in the 1992/93 year is estimated to be $810,000. This represents 42.0% of the $1,928,000 payroll for the year.

## F. *Total Required Contribution*

If the Plan's unfunded liabilities is amortized over the average remaining service life of the group (11 years) and added to the Assembly's cost of accruing benefits, the contribution required in 1992/93 is $1,206,000 or 63.8% of pay.

## II. PARTICIPANT DATA

### A. *Source of Participant Data*

Basic participant data as at April 1, 1992 was obtained from our administrative records. Current earnings information was provided by the Management Services Board. The data was reviewed to ensure its completeness, accuracy and consistency with the data used in the previous valuation.

### B. *Changes in Plan Membership*

The following schedule shows the changes in Plan Membership since the previous valuation of the Plan at April 1, 1990. The main reason for the change in active membership was the election held in October, 1991.

| | *Active* | *Deferred Vested* | *Deferred Not Vested* | *Pensioners* |
|---|---|---|---|---|
| **Members at April 1, 1990** | 24 | - | - | - |
| New Members | 9 | 3 | 6 | 5 |
| Retirements | (8) | | | 8 |
| Termination of Employment | (1) | | 1 | |
| **Members at April 1, 1992** | 24 | 3 | 7 | 13 |

Inactive members only became eligible for pensions under the Supplementary Act after the last valuation date when they completed their enrollment forms. They are shown as new members in the table above.

One active member, Mr. Crow, terminated before he was fully vested and thus received a return of his contributions credited with the prescribed interest. He has been treated as a deferred non-vested member.

## C. *Characteristics of Participant Data*

The following table illustrates key characteristics of the data used for the valuation. Comparative information has been provided for the previous valuation. Summaries of the valuation data are provided in Appendix B.

| | *April 1, 1992* | *April 1, 1990* |
|---|---|---|
| **Active Members** | | |
| • number | 24 | 24 |
| • average age | 44.0 | 45.1 |
| • average credited service | 4.7 | 6.4 |
| **Deferred Vested** | | |
| • number | 3 | n/a |
| • average age | 48.9 | |
| • average monthly deferred pensions | $1,210 | |
| **Deferred Not Vested** | | |
| • number | 7 | n/a |
| • average age | 48.0 | |
| • average monthly deferred pensions | $498 | |
| **Pensioners** | | |
| • number | 13 | n/a |
| • average age | 55.8 | |
| • average monthly pensions | $1,599 | |

Eight members retired at the end of the last term, and one terminated. They have all been replaced by newly-elected members.

## III. FINANCIAL DATA

### A. *Description of Plan Assets*

At the valuation date, the Plan assets are held and invested by Watt Carmichael Inc.

At April 1, 1992, the assets were invested in the categories shown in the table below. At April 1, 1990, the Plan had no assets, but had $271,000 of contributions receivable.

| | *Market Value at April 1, 1992* | |
|---|---|---|
| | *($)* | *%* |
| **Equity** | | |
| Canadian Equity Fund | 1,004,042 | 16 |
| Foreign Equity Fund | 263,596 | 4 |
| **Fixed Income** | 4,413,653 | 69 |
| **Short-Term** | 688,296 | 10 |
| **Accrued Investment Income** | 68,042 | 1 |
| | 6,437,629 | 100 |

## B. *Changes to Plan Assets*

The following table shows changes to Plan assets since the previous valuation.

| | *1991/92* $ | *1990/91* $ |
|---|---|---|
| Market Value at April 1 | 4,115,166 | 0 |
| **PLUS:** | | |
| Contributions | 1,960,587 | 3,777,028 |
| Investment Income | 527,269 | 338,138 |
| **LESS:** | | |
| Pension Payments | (165,393) | 0 |
| Market Value at March 31 | 6,437,629 | 4,115,166 |

## C. *Actuarial Value of Assets*

In determining the Plan's funding position, we use an asset valuation method which smooths the impact of short term fluctuations in the market value of the assets. The methods does this by recognizing the difference between the fund's actual and expected investment earnings gradually over a four year period.

The fund's investment earnings net of expenses (including realized and unrealized gains) are compared below to expected investment earnings:

| | *1991/92* | | *1990/91* | |
|---|---|---|---|---|
| | *$* | *%* | *$* | *%* |
| Net investment earnings: | | | | |
| Actual | 527,269 | 9.3 | 338,138 | 10.4 |
| Expected | 596,416 | 10.50 | 382,817 | 11.75 |
| Excess of actual over expected | (69,147) | | (44,679) | |

The actuarial asset value is then obtained by deducting from the current market value the portion of the investment gains (losses) which our method has not yet recognized.

| | |
|---|---|
| Market value at April 1, 1992 | $6,437,629 |
| Adjustment for investment losses not yet fully recognized | |
| 1991: 1/2 x ($44,679) = ($22,340) | $22,340 |
| 1992: 3/4 x ($69,147 ) = ($51,860) | $51,860 |
| Actuarial value at April 1, 1992 | $6,511,829 |

$74,200 of the investment loss has not yet been recognized in the smoothed actuarial asset value. The actuarial asset value equals 101% of the market value.

## D. *Adjustment for Receivables/Payables*

The value of the assets are further adjusted for contributions outstanding at the valuation date. As of April 1, 1992 the Plan has $38,665 of contributions receivable. There are no benefits payable. The adjusted actuarial asset value of the Plan is therefore $6,550,494.

## E. *Rate of Return*

Based on market values the Plan assets earned the following annualized rates of return net of investment management fees and other expenses charged to the fund.

| *Year* | *Investment Return* % |
|---|---|
| 1991/92 | 10.5 |
| 1990/91 | 17.9 |

## IV. CHANGES AFFECTING PLAN FUNDING

### *A. Actuarial Assumptions*

In this valuation a number of the economic assumptions have been changed. The economic assumptions have been updated to make them representative of current economic conditions in the near term. A list of these changes in contained in Section IX.

### *B. Inactive Members*

At the last valuation date, the Act only provided benefits to the Assembly's active members. The Supplementary Act did not provide for benefits to non-active members until they had agreed to increased benefits in exchange fc · financing part of the cost of the improvements. After the previous valuation, all retired members had signed the agreements and the Assembly granted all other inactive members the increased benefits.

### *C. Effect of Changes*

The effect of the above changes on the Plan's funded position and cost of accruing benefits is shown in Subsections V.B and V.C. respectively.

# V. VALUATION RESULTS

## A. *Funded Position*

The following table shows the Plan's funded position at April 1, 1992 and at the date of the previous valuation. The funded position is measured by comparing the Plan's actuarial liabilities to the actuarial value of assets. Where assets exceed liabilities, the Plan has a surplus. Otherwise, the Plan has an unfunded actuarial liability.

| | | *April 1, 1992* $ | *April 1, 1990* $ |
|---|---|---|---|
| **Accrued Liabilities** | | | |
| In respect of: | | | |
| 1. | Active Members | | |
| | MLA Benefits | 2,387,000 | 3,294,000 |
| | Ministerial Benefits | 742,000 | 1,000,000 |
| | Other Positions | 17,000 | 28,000 |
| | Deferred Entitlements | 680,000 | 550,000 |
| | Subtotal | 3,826,000 | 4,872,000 |
| 2. | Deferred Vested Members | 740,000 | 0 |
| 3. | Deferred Non-Vested Members | 360,000 | 0 |
| 4. | Pensioners | 4,623,000 | 0 |
| (A) | Total Accrued Liabilities | 9,549,000 | 4,872,000 |
| **Assets** | | | |
| 1. | Adjusted Value of Plan Assets | 6,512,000 | 0 |
| 2. | Contributions Receivable | 39,000 | 271,000 |
| 3. | Benefits Payable | 0 | 0 |
| (B) | Total Assets | 6,551,000 | 271,000 |
| **Unfunded Liability** | | 2,998,000 | 4,601,000 |
| (B) - (A) | | | |

The factors contributing to the change in funded position are summarized in the following subsection.

## B. *Changes in Funded Position*

The following schedule summarizes (approximately) the changes in the Plan's funded position between April 1, 1990 and April 1, 1992.

| | | |
|---|---|---|
| **Unfunded Liability at April 1, 1990** | | **$4,601,000** |
| Decreased by: | | |
| 1. | Past service payments made | 3,852,000 |
| 2. | Contributions by Assembly greater than expected | 847,000 |
| 3. | Gains due to deaths, terminations and retirements | 314,000 |
| 4. | Salary increases less than expected | 281,000 |
| 5. | Change in assumptions | 159,000 |
| Deceased by: | | |
| 1. | Interest on deficit | (1,081,000) |
| 2. | Plan improvements | (2,735,000) |
| 3. | Miscellaneous | (33,000) |
| 4. | Investment experience | (1,000) |
| **Unfunded Liability at April 1, 1992** | | **$2,998,000** |

### C. *Cost of Benefits Earned after Valuation Date*

The following table shows the estimated annual cost of accruing benefits for the current and previous valuations:

| | *1992/93* $ | *1990/91* $ |
|---|---|---|
| Estimated annual cost of accruing benefits | 810,600 | 705,000 |
| Estimated covered payroll | 1,928,400 | 1,824,000 |
| As a % of covered payroll | 42.0% | 38.7% |

The factors contributing to the change in the cost of accruing benefits are shown below:

| | | |
|---|---|---|
| 1. | Cost of accruing benefits as a percentage of covered payroll at April 1, 1990 | 38.7% |
| 2. | Changes in Plan membership | 3.9% |
| 3. | Changes to actuarial assumptions | (0.6%) |
| 4. | Cost of accruing benefits as a percentage of covered payroll at April 1, 1992 | 42.0% |

### D. *Required Contributions*

An unfunded liability may be funded over 15 years from when it is established. The unfunded liability under the Supplementary Act of $2,998,000 may thus be amortized over up to 13 years. If it is amortized over 11 years, the expected average remaining service life of the group, the contributions required are:

| | |
|---|---|
| Estimated annual cost of accruing benefits | $810,600 |
| PLUS | |
| Amortization of $2,998,000 over 11 years | 420,000 |
| Net annual cost of accruing benefits | $1,230,600 |
| As a % of covered payroll | 63.8% |

## VI. ACTUARIAL CERTIFICATION

In our opinion:

A. The data on which this report is based are sufficient and reliable for the purposes of the valuation;

B. The assumptions used are adequate and appropriate for the purposes of the valuation;

C. The methods employed are consistent with sound actuarial principles; and

D. The valuation complies with the requirements specified in subparagraph 147.2(2)(a)(iii) and (iv) of the Income Tax Act.

Nonetheless, emerging experience differing from the assumptions will result in gains or losses which will be revealed in future valuations.

This report has been prepared and our opinions given in accordance with generally accepted actuarial principles and the Recommendations of the Canadian Institute of Actuaries.

Respectfully submitted for
The Coles Group Consultants Ltd.

Naveen Kapahi
Fellow, Canadian Institute of Actuaries

Rob J.W. Vandersanden
Fellow, Canadian Institute of Actuaries

November, 1992

# *APPENDICES*

## VII. APPENDIX A - SUMMARY OF PLAN PROVISIONS LEGISLATIVE ASSEMBLY SUPPLEMENTARY RETIRING ALLOWANCES ACT

This summary contains the main provisions of the Northwest Territories Legislative Assembly Supplementary Retiring Allowances Act as at April 1, 1992. For the precise details of the plan's provisions, reference should be made to the *Legislative Assembly Supplementary Retiring Allowances Act*.

**1. Effective Date**

February 6, 1990.

**2. Eligibility**

All Members of the Legislative Assembly are Members of the Plan.

**3. Contributions**

Members are not required to contribute to the fund.

**4. Credited Service**

Service since March 10, 1975 not exceeding 15 years.

**5. Normal Retirement Age**

Age 55.

**6. Early Retirement**

At any time upon ceasing to be a Member of the Assembly.

**7. Late Retirement**

Up to age 71.

**8. Retirement Pension**

3 percent of the average best earnings over four consecutive years as an M.L.A. multiplied by Credited Service as an M.L.A.

PLUS

3 percent of the average best earnings over four consecutive years in each of the positions of Minister, Speaker or Chairperson multiplied by Credited Service for each position. A position must be held for at least one year for a pension to be paid, and the pension for each position is calculated separately.

Members who retire before age 55 receive a pension which is actuarially equivalent to the pension calculated as if they were 55. Former members who commence receiving a pension after age 55 also receive an actuarially equivalent pension.

**9. Increases in Pension**

Pensions in pay and deferred pensions are increased every January 1 based on increases in the Consumer Price Index up to the preceding September 30.

**10. Form of Pension**

The normal form of payment is a joint and 75% survivor pension reducing on the death of the Member. If a Member is not married, a lifetime annuity guaranteed for 10 years will be paid.

Each dependent will receive a pension of 10% of the retirement pension (to a maximum total of 25%) if the spouse survives. If there is no surviving spouse, a benefit of 25% of the retirement pension (to a maximum total of 100%) will be paid to each dependent.

**11. Pre-Retirement Death Benefits**

If a Member or Former Member dies before retirement and is not eligible to receive a pension, his accumulated contributions with interest will be returned to the beneficiary. If he was eligible to receive a pension, the spouse will receive a lifetime annuity of 75% of the retirement pension.

**12. Withdrawal Benefits**

A Member who terminates with less than six years of service will receive a lump sum payment of the accumulated contributions with interest. A member who terminates with six or more years of service is entitled to a retirement pension.

## VIII. APPENDIX B - PARTICIPANT DATA

### A. *Active Members*

The following tables summarize the key data by age group and sex for Active Members as at April 1, 1992.

**Males**

| *Age Group* | *Number* | *Average Credited Service as a MLA* |
|---|---|---|
| 30-34 | 2 | 2.48 |
| 35-39 | 3 | 7.16 |
| 40-44 | 6 | 4.46 |
| 45-49 | 8 | 4.28 |
| 50-54 | 1 | 3.42 |
| 55-59 | 1 | 4.49 |
| Total | 21 | 4.54 |

**Females**

| *Age Group* | *Number* | *Average Credited Service as a MLA* |
|---|---|---|
| 35-39 | 1 | 4.49 |
| 40-44 | 1 | 0.46 |
| 45-49 | - | - |
| 50-54 | 1 | 12.50 |
| Total | 3 | 5.82 |
| **Grand Total** | **24** | **4.70** |

### B. *Age and Service Table - Active Members*

The following table shows the distribution of active members by age and service groups as at April 1, 1992.

| *Average Age* | *Years of Credited Service as an M.L.A.* 0-1 | 1-5 | 5-10 | 10-15 | 15+ | *Total* |
|---|---|---|---|---|---|---|
| 30-34 | 1 | 1 | | | | 2 |
| 35-39 | | 3 | | 1 | | 4 |
| 40-44 | 4 | 1 | 1 | 1 | | 7 |
| 45-49 | 4 | 2 | 1 | | 1 | 8 |
| 50-54 | | 1 | | 1 | | 2 |
| 55-59 | 1 | 1 | | | | 1 |
| Total | 9 | 9 | 2 | 3 | 1 | 24 |

### C. *Pensioners*

The following table summarizes the data for Pensioners as at April 1, 1992 grouped by age.

| *Age* | *Male* | *Female* | *Average Monthly Pension $* | *Form of Pension* |
|---|---|---|---|---|
| 40-44 | 1 | - | 1,158 | Joint and 75% survivor |
| 45-49 | 1 | - | 1,641 | Single life, guaranteed 10 years |
| | 2 | - | 1,399 | Joint and 75% survivor |
| 50-54 | 1 | - | 1,641 | Joint and 75% survivor |
| | 1 | - | 1,790 | Single life, guaranteed 10 years |
| | 1 | - | 1,059 | Single life guaranteed 15 years |
| | 1 | - | 410 | Joint and 75% survivor |
| 60-64 | 2 | - | 2,350 | Joint and 75% survivor |
| 65-69 | - | 1 | 986 | Life only |
| | 1 | - | 3,623 | Joint and 75% survivor |
| 70-74 | 1 | - | 905 | Joint and 75% survivor |
| Total | 12 | 1 | 1,593 | |

### D. *Deferred Vested Members*

The following table summarizes the data for Deferred Vested Members as at April 1, 1992 grouped by age.

| *Age* | *Male* | *Female* | *Average Monthly Defined Pension* $ |
|---|---|---|---|
| 45-49 | 3 | - | 1,210 |
| Total | 3 | | 1,210 |

### E. *Deferred Non-Vested Members*

The following table summarizes the data for Deferred Non-Vested Members as at April 1, 1992 grouped by age.

| *Age* | *Male* | *Female* | *Average Monthly Defined Pension* $ |
|---|---|---|---|
| 40-44 | 2 | - | 570 |
| 45-49 | 3 | - | 465 |
| 50-54 | 1 | - | 504 |
| 55-59 | - | 1 | 444 |
| Total | 6 | 1 | 498 |

## IX. APPENDIX C - ASSUMPTIONS

A. The assumptions employed for purposes of this valuation are described below.

### 1. Economic Assumptions

*a. Interest Rate*

The present value of projected future benefit payments has been determined by discounting for interest at the following rates:

8.00% per annum

8.0% per annum represents the pension fund's anticipated long term rate of investment return, net of investment management expenses. A short term rate of 8.0% was felt to be reasonable in the light of recent decreases in interest rates.

*b. Salary Increases*

Overall salary levels have been assumed to increase by the following percentages which are equal to the assumed increases in the cost of living:

3.0% per annum for three years
5.5% per annum thereafter

The change in salary increase assumptions was made to be consistent with the inflation assumption.

*c. Post Retirement Increases*

Pensions in pay are assumed to increase with inflation each year. The short term inflation assumptions was lowered to 3.0% to reflect the current low level of inflation, but which is still expected to increase to the same long term level of 5.5%.

3.0% per annum for three years
5.5% per annum thereafter

*d. Interest Credited on Contributions*

8.00% per annum

## 2. Demographic Assumptions

*a. Mortality*

The standard table of mortality rates known as the 1983 Group Annuity Mortality Table has been used to represent the mortality of members both before and after retirement.

***b. Termination of Plan Membership***

No allowance has been made for the possibility of a member terminating plan membership prior to retirement for reasons other than death.

***c. Re-election***

Members who terminate and are non-vested are assumed to have a fifty percent chance of being re-elected and recommencing their membership in the Plan.

***d. Retirement Age***

Members of the Assembly were assumed to retire at the later of age 55 and completing six years of service and the end of the current session (in four years).

***e. Disablement***

No explicit allowance has been made for the possibility that an active member will become disabled.

***f. Proportion Married***

100% of all members have been assumed to be married at retirement.

***g. Age Difference Between Spouses***

Females are assumed to be two years younger than their male spouses.

***h. Dependent Children's Ages***

It was assumed that if a dependent child's benefit is payable, it will be payable for 10 years, on average.

## X. APPENDIX D - ACTUARIAL COST METHOD

### A. *Cost Method for Liabilities*

The actuarial liability and cost of benefits earned after the valuation date have been determined using the Accrued Benefit (or Unit Credit) Actuarial Cost Method with projected salaries.

The annual cost determined by this method is sensitive to changes in the age distribution of the Plan members increasing if the group matures and decreasing if the average age of the group reduces. When using this method, it is generally assumed that turnover in the group and the election of new members will ensure a relatively stable age distribution.

### B. *Asset Valuation Method*

Plan assets have been valued by a smoothing method which spreads the difference between actual and expected investment income over a four year period.