

Hewitt Associates



## **Actuarial Report**

Northwest Territories Legislative Assembly

Retiring Allowances Act

Funding Valuation As of April 1, 2004

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Republic

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## **Preparation of this Actuarial Valuation**

## Northwest Territories Legislative Assembly

**Retiring Allowances Act** 

**Registration Number: 0383133** 

This report on the actuarial valuation of the Northwest Territories Legislative Assembly Retiring Allowances Act ('the Plan') as of April 1, 2004, has been prepared for the Board of Management of the Northwest Territories Legislative Assembly, for the purpose of determining the Plan's:

- 1. Going-concern financial position.
- 2. Wind-up position.
- 3. Maximum contributions for the year following the valuation date in accordance with the *Income Tax Act*.

In conducting the valuation, we have used member information obtained from the Northwest Territories Legislative Assembly as of April 1, 2004, the financial statements prepared by CIBC Mellon as of March 31, 2004, and the actuarial assumptions and methods described in the actuarial assumptions section of this report.

#### It is our opinion that:

- 1. The latest date on which the next valuation should be performed is April 1, 2007.
- 2. The data on which this report is based are sufficient and reliable for the purpose of the valuation.
- 3. The assumptions used are, in aggregate, appropriate for the purpose of the going-concern valuation; emerging experience differing from assumptions will result in gains or losses which will be revealed in future valuations and may cause changes in future contribution levels.
- 4. The value of the Plan assets would be greater than the actuarial liabilities if the Plan were wound up on the valuation date.
- 5. The methods employed in the valuation are appropriate for the purposes of the going-concern valuation.

#### We hereby certify that:

- 1. The calculations in this report have been prepared in accordance with Subparagraphs 147.2(2)(a)(iii) and (iv) of the *Income Tax Act*.
- 2. There is excess surplus in this Plan as of the valuation date.

This report has been prepared, and our opinions given, in accordance with accepted actuarial practice.

**Hewitt Associates** 

Kathryn S. Ploc

Fellow of the Canadian Institute of Actuaries

Robert J.W. Vandersanden

Fellow of the Canadian Institute of Actuaries

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December 2004

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# **Summary**

# **Summary**

Following are the key results of the April 1, 2004 valuation:

- No Assembly contributions are either required or permitted for the three plan years covered by this report.
- The plan has a Surplus of \$5,723,200 as of April 1, 2004 on a going-concern valuation basis.

# Summary (continued)

Going-Concern Valuation Results	As of April 1, 2002	As of April 1, 2004
Past Service		
Actuarial Value of Assets	\$ 18,013,100	\$ 17,258,600
Less: Accrued Liability	10,419,300	11,535,400
Surplus (Unfunded Accrued Liability)	\$ 7,593,800	\$ 5,723,200
As a % of Actuarial Value of Assets	42.2%	33.2%
Current Service		
Total Current Service Cost	\$ 436,500	\$ 457,700
Less: Estimated Member Contributions	208,100	144,400
Assembly Current Service Cost	228,400	313,300
As a % of Participant Salary Base	12.5%	16.7%
Participant Salary Base	\$ 1,832,400	\$ 1,876,000

Personnel Data	As of April 1, 2002	As of April 1, 2004	
Active Members	19	19	
Retired Members	31 1	36¹	
Terminated Vested Members	1	0	
Terminated Non-Vested Members	4	0	
Total	55	55	

<sup>&</sup>lt;sup>1</sup> Includes one child receiving a dependent benefit payable to age of majority or age 25, if attending school, and a member whose pension was suspended on being re–elected.

# **Assets and Liabilities**

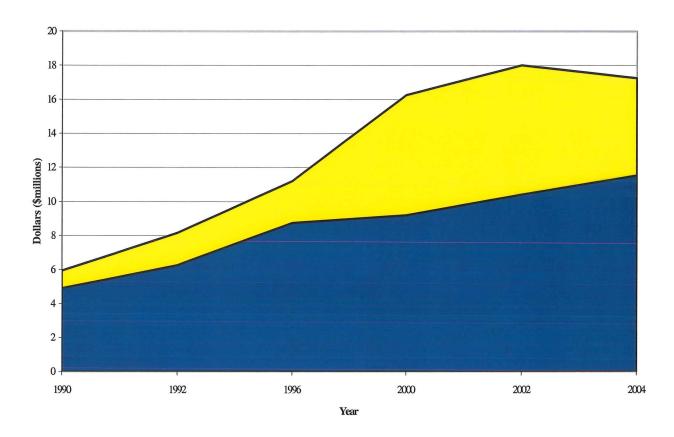
### **Assets and Liabilities**

#### **Going-Concern Valuation**

A Going-Concern Valuation is performed to determine the funded status of the pension plan and the funding requirements for the pension plan treating the plan as a going-concern. Following are definitions of some of the key terms used in reference to the going-concern valuation results;

- The Actuarial Value of Assets is the asset value used for valuation purposes. Since neither book value nor market value are necessarily ideal measures, other methods are often used to smooth asset values;
- The Accrued Liability is the actuarial present value of benefits earned in respect of service prior to the valuation date. The Accrued Liability is calculated using the going-concern valuation assumptions summarized in the Actuarial Assumptions section of this report;
- The Surplus (Unfunded Accrued Liability) is the difference between the Actuarial Value of Assets and the Accrued Liability;
- The **Total Current Service Cost** is the actuarial present value of benefits expected to be earned in respect of service in the current year. **Required Member Contributions** (if any) are deducted from the Total Current Service Cost to determine the **Assembly Current Service Cost**. The Total Current Service Cost is calculated using the going-concern valuation assumptions summarized in the Actuarial Assumptions section of this report; and
- Valuation Compensation represents pensionable earnings for all active members under the assumed retirement age.

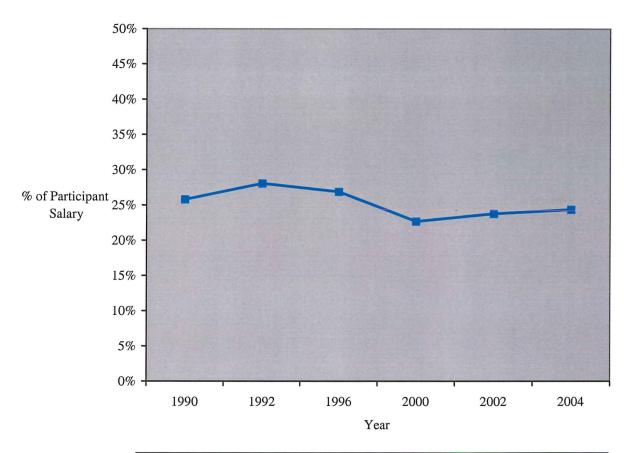
# **History of Accrued Liability and Surplus**



■ Accrued Liability ■ Surplus

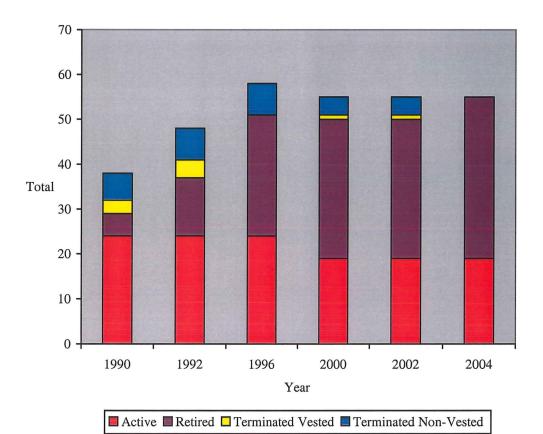
Actuarial Value of Assets (AVA)	Accrued Liability	Surplus	Surplus as a Percentage of AVA
\$ 5,932,000	\$ 4,899,000	\$ 1,033,000	17.4%
8,423,000	6,525,000	1,898,000	22.5%
11,205,000	8,759,400	2,445,600	21.8%
16,271,700	9,207,500	7,064,200	43.4%
18,013,100	10,419,300	7,593,800	42.2%
17,258,600	11,535,400	5,723,200	33.2%
	\$ 5,932,000 8,423,000 11,205,000 16,271,700 18,013,100	of Assets (AVA)  \$ 5,932,000 \$ 4,899,000 8,423,000 6,525,000 11,205,000 8,759,400 16,271,700 9,207,500 18,013,100 10,419,300	of Assets (AVA)         Accrued Liability         Surplus           \$ 5,932,000 8,423,000 11,205,000 11,205,000 16,271,700 18,013,100         \$ 4,899,000 6,525,000 8,759,400 9,207,500 7,064,200 7,593,800

## History of Current Service Cost as a Percent of Participant Salary Base



Year	_	otal Current Service Cost	Participant Salary Base	Total Current Service Cost as a % of Salary
1990	\$	471,000	\$ 1,824,000	25.8%
1992		542,000	1,928,000	28.1%
1996		517,000	1,923,600	26.9%
2000		376,400	1,660,000	22.7%
2002		436,500	1,832,400	23.8%
2004		457,700	1,876,000	24.4%

## **History of Distribution of Members**



Year	Active Members	Retired Members	Terminated Vested Members	Terminated Non-Vested Members	Total Members
1990	24	5	3	6	38
1992	24	13	4	7	48
1996	24	27	0	7	58
2000	19	31	1	4	55
2002	19	31	1	4	55
2004	19	36	0	0	55

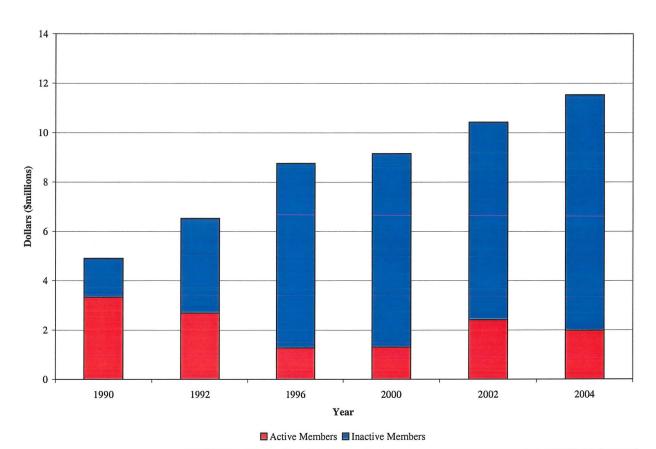
# **Going-Concern Valuation Results**

Following are the going-concern valuation results for the Plan:

Going-Concern Valuation Results	As of April 1, 2002	As of April 1, 2004
Actuarial Value of Assets	\$ 18,013,100	\$ 17,258,600
Less: Accrued Liability		
Active Members Retired Members Terminated Vested Members Terminated Non–Vested Members	\$ 2,421,000 7,804,700 104,200 89,400	\$ 1,989,200 9,546,200 0 0
Total	10,419,300	11,535,400
Surplus (Unfunded Accrued Liability)	\$ 7,593,800	\$ 5,723,200
As a % of Actuarial Value of Assets	42.2%	33.2%
Current Service Total Current Service Cost Less: Estimated Member Contributions Assembly Current Service Cost	\$ 436,500 <u>208,100</u> \$ 228,400	\$ 457,700
As a % of Member Salary Base	12.5%	16.7%
Participant Salary Base	\$ 1,832,400	\$ 1,876,000

## **History of Distribution of Accrued Liability**

The liabilities have been divided into liabilities for inactive members (terminated vested members and terminated non-vested members and retired members) and active members.



Year	<b>Active Members</b>	<b>Inactive Members</b>	Total
1990	\$ 3,335,000 1	\$ 1,564,000	\$ 4,899,000
1992	2,694,000 1	3,831,000	6,525,000
1996	1,276,700	7,482,700	8,759,400
2000	1,309,100	7,898,400	9,207,500
2002	2,421,000	7,999,300	10,419,300
2004	1,989,200	9,546,200	11,535,400

<sup>&</sup>lt;sup>1</sup> Includes voluntary contributions

## **Description of Plan Assets**

The Plan assets are held by CIBC Mellon and invested by UBS Global Asset Management (Canada) and McLean Budden. Information in this section of the report is based on financial reports prepared by CIBC Mellon, the Plan custodian, and asset mix information provided by UBS Global Asset Management (Canada) and McLean Budden.

Asset Category	ategory April 1, 2002 April 1, 2004			, 2004	
Equities: • Canadian • Foreign	\$ 6,261,232 4,102,013	37% 25%	\$	4,745,298 4,711,776	28% 27%
Fixed Income	6,064,940	36%		7,319,622	43%
Short Term	348,965	2%		435,793	2%
Total	\$ 16,777,150	100%	\$	17,212,489	100%

# **Changes to Plan Assets**

	2001/2002	2002/2003	2003/2004
Market Value at April 1	\$ 16,657,340	\$ 16,777,150	\$ 14,729,789
Plus:			
Member Contributions	87,896	191,071	177,066
Assembly Contributions	0	0	0
Investment Income	505,176	(1,734,523)	3,277,629
Less:			
Benefit Payments	421,902	433,006	464,474
Lump Sum Payments	(18,707)	0	394,168
Administrative and Other Expenses	20,586	24,091	67,669
Investment Management Fees	49,482	46,813	45,684
Market Value at March 31	\$ 16,777,150	\$ 14,729,789	\$ 17,212,489

#### **Determination of Actuarial Value of Assets**

In determining the Plan's funded position, we use an asset valuation method which smoothes the impact of short-term fluctuations in the market value of the assets. The method 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 investment and plan expenses (including realized and unrealized gains and losses) are compared below to expected investment earnings:

	2001/20	02	2002/20	003	2003/20	04
Net investment earnings:						
Actual	\$ 435,109	2.6%	\$ (1,805,426)	(10.8)%	\$ 3,164,276	22.0%
Expected	1,155,165	7.0%	1,166,076	7.0%	1,007,634	7.0%
Excess of actual over expected	\$ (720,056)		\$ (2,971,502)		\$ 2,156,642	

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, 2004			\$ 17,212,489
Adjustment i	nvestmen	gains and losses not yet fully recognize	d
2001/2002:	¹⁄4 X	(\$ 720,056)	180,014
2002/2003:	1/2 X	(\$ 2,971,502)	1,485,751
2003/2004:	3/4 X	\$ 2,156,642	(1,617,482)
Smoothed Va	alue at Ap	ril 1, 2004	\$ 17,260,772

Therefore, \$48,283 of the last three years' investment losses have not yet been recognized in the smoothed actuarial asset value. The smoothed asset value equals 100.3% of the market value.

For this valuation, the actuarial value of assets equals the smoothed market value of assets adjusted for amounts payable and receivable at the valuation date.

The following table shows the calculation of the actuarial value of assets:	
Smoothed Market Value at April 1, 2004	\$ 17,260,772
Contributions Receivable at the Valuation Date Fees Payable at the Valuation Date	13,562 (15,731)
Actuarial Value of Assets	\$ 17,258,603

## **History of Asset Returns**

The following table shows the history of asset returns, based on market values and actuarial values, net after investment management fees and other expenses charged to the fund.

Period Ending March 31	Return on Market Value	Return on Actuarial Value
2001	(5.2)%	9.4%
2002	2.6 %	4.3%
2003	(10.8)%	1.0%
2004	22.0 %	0.5%

The returns (after expenses) on market value have been calculated assuming contributions and benefit payments take place in the middle of each year.

# **Contributions**

## **Contributions**

#### **Excess Surplus**

Excess Surplus is defined in Section 147.2(2)(d) of the Income Tax Act (the "Act"). The Income Tax Act requires that any excess surplus first be applied to reduce or eliminate the Company contribution requirements. Since the calculation of excess surplus impacts the development of the Company contribution requirements, we first show the development of excess surplus.

Excess surplus is defined under the Act as the portion of Surplus (if any) that exceeds the lesser of (a) and (b) below:

- (a) 20% of the Accrued Liability;
- (b) the greater of:
  - (i) Twice the Total Current Service Cost
  - (ii) 10% of the Accrued Liability

### **Development of Excess Surplus**

The development of excess surplus as of April 1, 2004 is shown below.

Sur	blus	\$	5,723,200
(a)	20% of Accrued Liability	\$	2,307,100
(b)	Greater of:		
	<ul><li>(i) Twice the Total Current Service Cost</li><li>(ii) 10% of the Accrued Liability</li></ul>	\$ \$	915,400 1,153,500
Exc	ess Surplus	\$	4,569,700

To avoid revocation of the Plan's registration by the Canada Revenue Agency, the excess surplus must be applied to finance Plan benefits and expenses. Due to the magnitude of the excess surplus in the Plan, no Assembly contributions will be required in the period April 1, 2004 to March 31, 2007. However, an application of surplus should not be implemented without a favorable legal opinion regarding the ability of the Assembly to apply the surplus under the terms of the Plan.

### **Minimum Required Assembly Contribution**

For a plan year, the minimum required Assembly contribution is equal to:

- the Assembly Current Service Cost; plus
- Special Payments toward amortizing any Unfunded Accrued Liability over 15 years from the date on which the Unfunded Accrued Liability was established; less
- required application of Excess Surplus; less
- permitted application of Surplus.

## **Development of Minimum Required Assembly Contribution**

The development of the minimum required Assembly contribution for the plan year commencing April 1, 2004 is shown below.

Company Current Service Cost	\$ 313,300
Plus: Special Payments Toward Amortizing Unfunded Accrued Liability	0
Less: Required Application of Excess Surplus	313,300
Less: Permitted Application of Surplus	 0
Equals: Minimum Required Assembly Contribution	\$ 0

#### **Maximum Deductible Assembly Contribution**

Under Subsection 8502(b) of the Regulations to the *Income Tax Act* (the "Act"), each contribution made after 1991 in respect of a defined benefit provision of a registered pension plan must be an eligible contribution pursuant to Subsection 147.2(2) of the Act.

In the Assembly's fiscal year, the following contributions are eligible under Section 147.2 of the Act.

- the Assembly Current Service Cost, eligible under Section 147.2(2) subject to certification by the actuary and approval by the Canada Revenue Agency; plus
- Special Payments eligible under Section 147.2(2) up to the amount of the Unfunded Accrued Liability, subject to certification by the actuary and approval by the Canada Revenue Agency; less
- required application of Excess Surplus.

The Assembly Current Service Cost and Special Payments for this plan will be deductible under Section 147.2(2) of the Act, subject to the approval of the Canada Revenue Agency.

#### **Timing of Contributions**

In order to be deductible in a given fiscal year, Assembly contributions must be made not later than 120 days after the end of the fiscal year.

## **Development of Maximum Deductible Assembly Contribution**

The development of the maximum deductible Assembly contribution for the plan year commencing April 1, 2004 is shown below.

Assembly Current Service Cost	\$ 313,300
Plus: Unfunded Accrued Liability	0
Less: Required Application of Excess Surplus	 313,300
Equals: Maximum Deductible Assembly Contribution	\$ 0

### **Operating Expenses**

The Plan's operating expenses are paid partly from the pension fund. The going-concern actuarial assumptions include an implicit allowance for operating expenses.

### **Subsequent Events**

Subsequent events are events that transpire after the valuation date and before the date the valuation was completed. Subsequent events also include events which, as of the date the valuation was completed, are fully committed to occur in the future.

To the best of our knowledge, there are no subsequent events which materially affect the results of the valuation.

# **Experience**

# Experience

Analysis of Experience The table below presents a reconciliation of the change in Surplus (Unfunded Accru from April 1, 2002 to April 1, 2004:	ied ]	Liability)
Surplus (Unfunded Accrued Liability), April 1, 2002	\$	7,593,800
Plus: Actual Contributions In Respect of 2002, 2003 and 2004		368,100
Less: Current Service Costs In Respect of 2002, 2003 and 2004		903,600
Plus: Interest at 7% Per Year		1,031,000
Equals: Expected Surplus (Unfunded Accrued Liability), April 1, 2004	\$	8,089,300
Plus: Increase (Decrease) Attributable to Actuarial Gains (Losses) Arising From:		
Investment Return Salary Increases COLA Increases Turnover, Mortality, Retirement	\$	(2,391,800) 130,700 235,900 147,300
Total	\$	(1,877,900)
Plus: Increase (Decrease) Attributable to Charge in Income Tax Limits	\$	(64,400)
Plus: Increase (Decrease) Attributable to Charge in Actuarial Assumptions	\$	(423,800)
Equals: Surplus (Unfunded Accrued Liability), April 1, 2004	\$	5,723,200

## Experience (continued)

### **Comments Regarding Experience**

#### **Return on Assets**

The assumed rate of return for actuarial valuation purposes was 7.0% per annum. The average annual total return based on the actuarial value of assets during the two-year period was 0.8% assuming contributions and benefit payments take place in the middle of the year. This resulted in an actuarial loss of \$2,391,800.

#### **Contributions**

Due to the surplus in the Plan as of April 1, 2002, no Assembly contributions were made during the period from April 1, 2002 to April 1, 2004. The cost of accruing benefits, less member contributions, was paid out of the surplus of the Plan, and this resulted in an actuarial loss of \$535,500.

#### **Salary Increase**

Salaries for active members at the last valuation were assumed to increase at 5% per year. Actual increases were lower than expected and several members also changed positions during the intervaluation period. These deviations from expected experience generated an actuarial gain of \$130,700.

#### **Cost of Living Increases in Pensions**

The increase in the cost of living during the inter-valuation period was less than the 4.0% annual increase anticipated by the assumptions. This deviation from expected experience generated an actuarial gain of \$235,900.

#### **Turnover, Mortality and Retirement**

In addition, the combined effect of turnover, mortality and retirement resulted in actuarial gains of \$147,300.

#### **Discussions of Changes in Assumptions**

The following assumptions were changed:

- Income Tax Act maximum benefits were increased in the Federal Budget in February 2003 and that increase affected benefits payable under the RAA. This resulted in an actuarial loss of \$64,400.
- The mortality table was changed from the 1983 Group Annuity Mortality table to the 1994 Uninsured Pensioner mortality table, projected 20 years. This assumption change resulted in an actuarial loss of \$444,300.
- The Retirement Assumption was changed (summarized in the Actuarial Assumption section of this report). This change resulted in an actuarial gain of \$20,600.

# **Appendices**

# **Appendix I—Personnel Information**

# **Personnel Information**

## **Personnel Information**

### **Description of Membership Data**

Active membership data as at April 1, 2004 was obtained from the Northwest Territories Legislative Assembly. Information on the other membership groups was taken from the administrative records of Hewitt Associates. The data was reviewed to ensure its completeness, accuracy and consistency with the data used in the previous valuation.

The main tests of reliability and sufficiency conducted on the data include:

- Member-by-member reconciliation of records with records used for the prior valuation;
- Checks to determine reasonableness of individual data elements both on an absolute basis and relative to the same data elements provided for the prior valuation; and
- Checks to ensure consistency between the membership information provided and the information contained in the Plan's financial statements.

The results of these tests were satisfactory and in our opinion the data is sufficient and reliable for the purpose of the valuation.

## **Changes in Plan Membership**

The following schedule shows the changes in plan membership since the previous valuation of the Plan at April 1, 2002.

	Active Members	Terminated Vested Members	Terminated Non–Vested Members	Retired Members
Members at April 1, 2002	19	1	4	311
New Entrants	7			
Deletions				
<ul><li>Terminations (Lump Sum)</li><li>Terminations (Deferred Pension)</li></ul>	(3)			
• Retirements • Deaths	(4)	(1)		5
<ul> <li>Disabilities</li> <li>Terminated Non-Vested Members not re-elected in the last two elections</li> </ul>	_		<u>(4)</u>	
Members at April 1, 2004	19	0	0	36¹

<sup>&</sup>lt;sup>1</sup> This number includes one child receiving a dependent benefit payable to age of majority or age 25, if attending school, as well as a member whose pension was suspended on being re-elected.

### **Active Members**

Following are some relevant characteristics of the active member data as of April 1, 2004. Corresponding data as of April 1, 2002 are shown for comparison purposes.

		As of April 1, 2004		
		Males	Female	Total
Number		17	2	19
Average Age		45.8	43.7	45.6
Average Credited Service <sup>1</sup>	MLA Minister Other	3.9 2.2 2.4	6.4 1.8 1.5	4.2 2.2 2.2
Average Earnings <sup>2</sup>	MLA Minister Other		:	\$ 79,145 42,892 16,402

		As	As of April 1, 2002		
		Males	Female		Total
Number	·	17	2		19
Average Age		49.1	41.7		48.3
Average Credited Service	MLA Minister Other	5.2 3.7 2.7	4.4 2.2 3.9		5.1 3.5 2.7
Average Earnings <sup>2</sup>	MLA Minister Other			\$	75,543 40,430 13,167

<sup>&</sup>lt;sup>1</sup> Includes credited service for positions no longer held. <sup>2</sup> Average earnings for positions currently in.

#### **Retired Members**

Following are some relevant characteristics of the retired member's as of April 1, 2004. There were no terminated vested or non-vested members as of April 1, 2004. Corresponding data as of April 1, 2002 are shown for comparison purposes.

	As o	As of April 1, 2004		
	Number	Average Age		Average Annual Pension
Retired Members	36¹	58.1	\$	14,858
	, As a	f April 1, 20	102	
	A5 0	April 1, 20		
	Number	Average Age		Average Annual Pension
Retired Members	311	57.8	\$	14,272

<sup>&</sup>lt;sup>1</sup> This number includes one child receiving a dependent benefit payable to age of majority or age 25, if attending school, as well as a member whose pension was suspended on being re-elected.

#### **Confirmation Certificate**

I, Myles Moreside of the Northwest Territories Legislative Assembly, hereby certify that to the best of my knowledge, the data submitted to Hewitt Associates for the purpose of performing an actuarial valuation for the Northwest Territories Legislative Assembly Retiring Allowances Act as at April 1, 2004 is accurate and complete. I also certify that to the best of my knowledge, I have responded to any requests for additional information regarding the actuarial valuation.

Myles Moreside

Northwest Territories Legislative Assembly

November 18, 2004

# **Appendix II—Plan Provisions**

# **Plan Provisions**

### **Plan Provisions**

This summary contains the main provisions of the Northwest Territories Legislative Assembly Retiring Allowances Act (the "Plan") as at April 1, 2004. For a complete description of the Plan, reference should be made to the Northwest Territories Legislative Assembly Retiring Allowances Act.

**Effective Date** 

October 1, 1979.

**Eligibility** 

All Members of the Legislative Assembly are

Members of the Plan.

**Credited Service** 

Service from March 10, 1975 and before January 1, 1992 not exceeding 15 years. All service after

December 31, 1991.

**Contributions** 

Members contribute 6 ½% of earnings to the fund effective October 16, 1995. Members who elect to

participate in the Northwest Territories

Legislative Assembly Supplementary Retiring Allowances Act contribute an additional 2 ½% of

earnings to the fund.

Pensionable Age Pre-1992 Service

Age 55.

Pre-1991 Service

The earliest of:

- a) the age of 60 years
- b) 30 years of service
- c) the aggregate of age and service equal to 80

**Late Retirement** 

Up to age 69.

## Plan Provisions (continued)

### Retirement Pension at Pensionable Age

2 percent of the average best earnings over any four years as an MLA multiplied by Credited Service as an MLA

#### **PLUS**

2 percent of the average best earnings over any four years in an eligible position multiplied by Credited Service in that 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.

### **Maximum Pension**

For benefits earned after 1991, the annual retirement pension payable shall not exceed the lesser of:

- a) the defined benefit limit as prescribed in the Income Tax Act of Canada for the year in which the pension commences, times years of Credited Service, and
- b) 2% of average annual pensionable remuneration times years of Credited Service.

The combined pension amount under the Northwest Territories Legislative Assembly Retiring Allowances Act and the Northwest Territories Legislative Assembly Supplementary Retiring Allowances Act shall not exceed 75% of the average best earnings over any four years.

A member may retire at any time upon ceasing to be a Member of the Assembly. A Member retiring prior to Pensionable Age shall receive:

A pension which is actuarially equivalent to the pension payable at the member's Pensionable Age.

Post-1991 Service

Pre-1992 Service

**Early Retirement** 

A pension which is reduced by 0.25% for each month a member retires before Pensionable Age.

## Plan Provisions (continued)

### Form of Pension Pre-1992 Service

Post-1991 Service

#### **Increases in Pension**

#### **Pre-Retirement Death Benefits**

The normal form of payment is a joint and 75% survivor pension reducing on the death of a Member. 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.

The normal form of pension is a joint and 66-2/3% survivor pension reducing on the death of the Member with a guarantee of 5 years in any event. 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.

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.

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 it will be assumed that the member retired on the day preceding his death.

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.

# Plan Provisions (continued)

### **Withdrawal Benefits**

A Member who ceases to be a Member with four or more years of service or serves at least one full term as a Member of the Assembly is entitled to a retirement pension. All other Members who terminate will receive a lump sum payment of their accumulated contributions with interest.

# **Appendix III—Actuarial Assumptions**

# **Actuarial Assumptions**

## **Actuarial Assumptions**

**Going-Concern Valuation** 

Retirement assumptions for members Later of age 50 (was previously age 55), or four

years of service or end of current session.

Mortality Rates

• Before retirement None

• After retirement UP 1994 projected 20 years with Scale AA

(was 1983 Group Annuity Mortality Table in

prior valuation)

Withdrawal Rates None assumed

Disability Rates None assumed

Percentage with spouse 100%; female spouse assumed to be 2 years

younger than male spouse

Dependent Children's Death Benefit None assumed

Increase in Revenue Canada Maximum Benefit Current level of \$1,833.33 per year of service in

2004, \$2,000 per year of service in 2005, increasing by 5% per annum thereafter

Salary Scale 5.0% per annum

Inflation 4.0% per annum

Interest Rate 7.0% per annum net of expenses.

Re-election of Deferred Members Non-vested terminated Members are assumed to

have a 25% chance of being re-elected in the next two general elections after being terminated

### Going-Concern Valuation (continued)

Valuation of Assets

The actuarial value of assets is equal to the smoothed market value of assets adjusted by amounts receivable and payable at the valuation date.

The smoothed market value is calculated by adjusting the market value to gradually recognize the difference between each year's actual and expected investment earnings over a four year period. Expected investment earnings are calculated by assuming the fund assets and cash flows will earn the prior valuation's going—concern valuation interest rate.

Actuarial Cost Method

Projected unit credit actuarial cost method.

Wind-Up Valuation

Retirement Age Retirement age that produces the highest value.

Mortality Rates 1983 Group Annuity Mortality Table.

**Interest Rates** 

Active Members Less Than Age 50 2.75% per annum for 15 years 3.25% per annum thereafter

Interest rates are based on the Canadian Institute

of Actuaries Recommendations for the

Computation of Transfer Values from Registered

Pension Plans ("Transfer Value Basis").

Active Member Greater Than Age 50 and

**Inactive Members** 

2.50% per annum

Termination All members are assumed to terminate on the

valuation date.

Windup Expenses \$50,000.

Valuation of Assets The actuarial value of assets used for wind-up

purposes is the market value of assets adjusted by amounts receivable and payable at the valuation date, less an allowance for estimated

wind-up expenses.

Actuarial Cost Method Accrued benefit actuarial cost method.

# **Discussion of Actuarial Assumptions and Methods Ultimate Cost**

The ultimate cost of a pension plan can be measured only when the obligation to all members has been fully discharged. The cost will then be:

The benefits paid from the plan plus administrative expenses less investment gains plus investment losses.

The actuarial process assigns pension costs to the current year by estimating, based on both current and future service, the benefits to be paid to current plan members. These estimates are determined through an actuarial valuation which uses three basic elements to project payments from the plan:

- Benefit provisions of the plan;
- Data on the present workforce, terminated vested, and retired employees; and
- Certain predictions (actuarial assumptions) about the future as it applies to this workforce.

### **Actuarial Assumptions**

The first step in the actuarial process is to determine the magnitude of the pension liability by determining the benefits expected to be paid. To determine how many employees will become eligible for benefits, what benefits will be paid, and how long benefits will be paid, it is necessary to make some economic and demographic predictions (usually called actuarial assumptions) such as:

- Assumed retirement rates predicting when employees will begin to receive retirement benefits;
- Mortality rates predicting the number of employees who will die before retirement and the duration of benefit payments after retirement;
- Withdrawal rates predicting the number of employees who will leave the workforce before retirement (sometimes certain kinds of withdrawal such as disabilities are predicted separately); and
- An assumed rate of pay increases predicting employees' compensation in future years.

These assumptions are applied to the data for each employee to predict the amount of benefits expected to be paid each year in the future. The total future benefit payments in each year are then discounted at a selected interest rate to determine the current amount which with future investment return, will be sufficient to pay the expected benefits as they become payable. The discounted payments are usually called the present value of future benefits.

Total Future Benefit Payments			
Future Investment Return	Present Value of Future Benefits		

#### **Actuarial Method**

The actuarial method is the mathematical process which determines the contributions required to pay for the present value of future benefits, by allocating costs to the years of an employee's career. Some costs are allocated to future years in an employee's career (*future service liability*) and other costs are allocated to past years (*past service liability*).

Total Future Benefit Payments					
Future Investment Return	Present Value of	Future Benefits			
	Future Service	Past Service			
	Liability	Liability			

There is a fair amount of flexibility in this allocation of costs between future and past. Some methods assign relatively little cost to past years in an employee's career, others assign a more significant portion to the past. All methods produce allocations of contributions which will accumulate to an amount sufficient to provide the benefits at retirement. However, the various methods produce widely different allocation of contributions to past and future employment.

Usual terminology refers to the future allocation as the *present value of future normal costs* and the past allocation as the *accrued liability*.

The portion of the accrued liability which is not covered by the assets of the plan is called the *unfunded accrued liability*. The value of the assets used in the actuarial process must take into account fair market value, but this may be done in a way which eliminates much of the short–term fluctuation of market value from one valuation to the next.

Total Future Benefit Payments						
Future Investment Return	Present Value of Future Benefits					
	Future Service Liability	Past Servic Liability	e			
	Present Value of Future Normal Costs	Unfunded Accrued Liability	Assets			

For the current year, the method produces a *normal cost*. Payment of the normal cost each year would eventually discharge all future service liability.

The unfunded accrued liability must also be discharged, and this is done by an *amortization payment*. The amortization payment is flexible, and may be increased or decreased within certain allowable bounds. The sum of both the normal cost and the amortization payment is the current year's pension cost.

Total Future Benefit Payments						
Future Investment Return	Present Value	of Future Benefits				
	Future Service Liability	Past Servic Liability	e			
	Present Value of Future Normal Costs	Unfunded Accrued Liability	Assets			
	Normal Cost	Amortization Payment				

Contribution

Valuations to determine contributions to the ongoing plan use the *Projected Unit Credit Cost Method*.

Under this actuarial method, the cost attributed to past service (past service liability or accrued liability) is determined on the valuation date as the present value of the benefits actually earned (accrued) as of that date. Benefits earned by members are calculated using current earnings projected to retirement, termination or death. The unfunded accrued liability is the amount by which the accrued liability exceeds the valuation assets. This actuarial method does not necessarily ensure that assets will exceed liabilities in the event of a plan wind-up.

The current year's *normal cost*, determined on the valuation date, is the amount required to fund the benefit expected to be earned in the current year.

The benefits earned by members and used for the calculation of the accrued liability or normal cost, are calculated using current earnings projected to retirement, termination of employment or death, whichever is applicable.

Because the value of the future service liability is not used in the calculation of normal cost, it is often omitted from the actuarial report which may show only an accrued liability.

The calculations for any disability, termination or death benefits take into consideration that the entitlement to benefits may begin at various future times. Each age prior to retirement has associated with it appropriate probabilities of disability, termination and death.

The Projected Unit Credit Actuarial Cost Method produces a contribution rate for an individual member that increases with age. For the entire membership, however, the contribution rate will remain stable provided the average age of the active membership remains stable.

Each going—concern unfunded actuarial liability is amortized over a period of fifteen years from the date it is created by equal monthly payments of principal and interest using the going—concern valuation interest rate which is compounded annually.

The actuarial methods used for determining the wind-up status of the Plan are as follows:

- 1. The wind-up liability was determined using the Accrued Benefit Actuarial Cost Method. The wind-up liability is equal to the present value of benefits earned by members for service prior to the valuation date assuming the Plan is wound-up on the valuation date.
- 2. Wind-up assets are equal to the market value of invested assets, already adjusted for payments due to and payable from the pension fund, less an allowance for wind-up expenses.