# Nova Scotia Teachers' Pension Plan

Report on the Actuarial Valuation for Funding Purposes as at December 31, 2005

**MERCER** 

**Human Resource Consulting** 

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# **Summary of Results**

Going-Concern Financial Position	31.12.2005	31.12.2004
Actuarial value of assets	\$4,384,443,000	\$3,900,396,000
Actuarial liability	\$4,684,101,000	\$4,774,410,000
Funding excess (unfunded liability)	(\$299,658,000)	(\$874,014,000)
Funded ratio	93.6%	81.7%
Funding Requirements (annualised)	2006	2005
Total current service cost	\$81,864,000	\$93,574,000
Estimated teachers' required contributions	\$53,929,000	\$52,163,000
Estimated matching Government contributions	\$53,929,000	\$52,163,000
Excess contributions	\$25,994,000	\$10,752,000
Total current service cost as a percentage of payroll	13.31%	15.72%
Total contributions as a percentage of payroll	17.53%	17.52%

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#### Introduction

Report on the Actuarial Valuation as at December 31, 2005

#### To The Teachers' Pension Plan Trustee Inc.

As requested, we have conducted an actuarial valuation of the Nova Scotia Teachers' Pension Plan, as at December 31, 2005. We are pleased to present the results of the valuation.

The purpose of this valuation is to determine:

- the funded status of the plan as at December 31, 2005 on a going-concern basis, and
- the minimum funding requirements from 2006.

The next actuarial valuation of the plan is required for purposes of the Income Tax Act on or before December 31, 2008, however, the Teachers' Pension Act requires annual valuations.

This valuation reflects the provisions of the plan as at December 31, 2005, including the impact of the agreement between the Province of Nova Scotia and the Nova Scotia Teachers' Union signed on June 22, 2005 to change the method for determining post-retirement indexing for new retirees on and after August 1, 2006.

Under this agreement, post retirement indexing is based on the funded position of the plan. If the funded ratio is less than 90%, no indexing will be provided. If the funded ratio is between 90% and 100%, at the discretion of the Trustee, indexing may be granted at 50% of the increase in the Consumer Price Index ("CPI"). If the funded ratio is 100% or more, indexing will be provided at 100% of the increase in CPI to the extent that providing indexing at 100% of the increase in CPI does not reduce the funded ratio to below 100% (in such case, indexing will be provided at no less than 50% of the increase

in CPI). In determining the funded ratio for this purpose, the actuarial liability for members eligible for the new indexing provisions is determined assuming no future indexing is provided. The timing of post retirement indexing is also changing from January 1 of each year to July 1 of each year, with the increase on July 1, 2006 representing the increase in CPI over a six-month period. Also, the indexing provided on July 1, 2006 and July 1, 2007 is guaranteed to be at least 50% of the increase in CPI.

Also as part of this agreement, effective April 1, 2006 the plan's governance changed to a jointly trusteed plan with the Teachers' Pension Plan Trustee Inc. becoming the plan's trustee.

The agreement reduced the plan's unfunded liability by \$435,974,000 and reduced the total current service cost by \$17,720,000. A summary of the plan provisions is provided in Appendix D.

We have used the same going-concern valuation assumptions and methods as were used for the valuation as at December 31, 2004. However, given the change to the indexing provisions described above, the actuarial liability with respect to members eligible for the new indexing provision is determined assuming that in years when the indexing is at the discretion of the Trustee, no indexing will be paid. The going-concern valuation assumptions are described in detail in Appendix B.

The liabilities and current service cost have been determined using assumptions which result in amounts which are no more than are needed to comply with the applicable legislation and accepted actuarial practice.

After checking with representatives of the Nova Scotia Pension Agency, to the best of our knowledge there have been no events subsequent to the valuation date which, in our opinion, would have a material impact on the results of the valuation.

Philip Churchill
Fellow, Society of Actuaries
Fellow, Canadian Institute of Actuaries
Fellow, Canadian Institute of Actuaries

Date

Date

Douglas M. Brake
Fellow, Society of Actuaries
Fellow, Canadian Institute of Actuaries

Date

Respectfully submitted,

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#### **Financial Position of the Plan**

# Valuation Results — Going-Concern Basis

When conducting a valuation on a going-concern basis, we determine the relationship between the respective values of assets and accumulated benefits, assuming the plan will be maintained indefinitely.

#### **Financial Position**

The results of the valuation as at December 31, 2005, in comparison with those of the previous valuation as at December 31, 2004, are summarised as follows:

# Financial Position — Going-Concern Basis

	31.12.2005	31.12.2004
Actuarial value of assets (market value)	\$4,384,443,000	\$3,900,396,000
Actuarial liability		
Present value of accrued benefits for:		
<ul><li>active teachers</li></ul>	\$1,708,952,000	\$2,047,207,000
<ul><li>pensioners and survivors</li></ul>	\$2,932,650,000	\$2,686,978,000
<ul> <li>inactive teachers</li> </ul>	\$42,499,000	\$40,225,000
Total liability	\$4,684,101,000	\$4,774,410,000
Funding excess (unfunded liability)	(\$299,658,000)	(\$874,014,000)
Funded ratio	93.6%	81.7%

#### **Reconciliation of Financial Position**

The plan's financial position, an unfunded liability of \$299,688,000 as at December 31, 2005, is reconciled with its previous position, an unfunded liability of \$874,014,000 as at December 31, 2004, as follows:

# **Reconciliation of Financial Position**

Funding excess (unfunded liability) as at 31.12.2004	(\$874,014,000)
Interest on funding excess (unfunded liability) at 7.38% per year to 31.12.2005	(\$64,502,000)
Net experience gains (losses) in 2005 *	\$184,097,000
Contributions in excess of current service cost	\$12,006,000
Net impact of 2005 agreement	\$435,974,000
Net impact of other elements of gains and losses	\$6,781,000
Funding excess (unfunded liability) as at 31.12.2005	(\$299,658,000)

<sup>\*</sup> Net experience gains (losses) are detailed below.

#### Plan Experience

The main assumptions are compared with actual experience since the previous valuation as at December 31, 2004:

# Plan Experience

	Assumption	Actual 2005	Impact Gain (Loss)
Investment return, net of expenses	7.38%/year	12.35%/year	\$194,083,000
Increases in pensionable earnings	4.54%/year	6.66%/year	) (0.45, 455,000)
Increases in YMPE	3.5%/year	1.48%/year	(\$15,455,000)
Indexation	2.0%/year	1.3%/year	\$19,273,000
Retirement (excluding disability retirements)			
<ul><li>number</li></ul>	1,078 retired	638 retired	) (07.774.000)
<ul><li>average age</li></ul>	56.7 years	56.7 years	(\$7,774,000)
Terminations of employment	79 terminated	225 terminated	\$129,000
Mortality:			
<ul> <li>pre-retirement</li> </ul>	31 deaths	15 deaths	(\$1,054,000)
<ul><li>post-retirement</li></ul>	235 deaths	215 deaths	(\$5,105,000)
Net experience gains (losses)			\$184,097,000

# Valuation Results — Wind-up Basis

When conducting a hypothetical wind-up valuation, we determine the relationship between the respective values of the plan's assets and its liabilities assuming the plan was wound up and settled on the valuation date.

While this valuation does not affect the plan's funding requirements, the Canadian Institute of Actuaries' Standards of Practice require disclosure of the wind-up financial position of the plan.

The plan's hypothetical wind-up position as of December 31, 2005, is determined as follows:

#### Financial Position — Wind-up Basis

	31.12.2005
Market value of assets	\$4,384,443,000
Termination expenses	(\$4,000,000)
Wind-up assets	\$4,380,443,000
Actuarial liability	
Present value of accrued benefits for:	
<ul><li>active teachers</li></ul>	\$2,238,729,000
<ul><li>pensioners and survivors</li></ul>	\$3,771,775,000
<ul> <li>Inactive teachers</li> </ul>	\$57,884,000
Total liability	\$6,068,388,000
Wind-up excess (shortfall)	(\$1,687,945,000)

# Impact of Plan Wind up

In our opinion, the value of the plan's assets would be less than its actuarial liabilities if the plan were to be wound up on the valuation date. Actuarial liabilities would exceed the market value of plan assets by \$1,687,945,000. This calculation includes a provision for termination expenses that might be payable from the pension fund.



# **Funding Requirements**

#### **Current Service Cost**

The estimated value of the benefits that will accrue on behalf of the active teachers during 2006, in comparison with the corresponding value determined in the previous valuation as at December 31, 2004, is summarised below:

#### **Current Service Cost**

	31.12.2005	31.12.2004
Present value of benefits expected to be accrued in respect of service in the following year	\$81,864,000	\$93,574,000
Estimated teachers' required contributions	\$53,929,000	\$52,163,000
Estimated Government required contributions	\$53,929,000	\$52,163,000
Current service funding excess	\$25,994,000	\$10,752,000
Total current service cost as a percentage of payroll	13.31%	15.72%
Total contributions as a percentage of payroll	17.53%	17.52%

The current service cost as a percentage of payroll has declined since the previous valuation primarily due to the impact of the 2005 Agreement.

The plan has an unfunded liability of \$299,658,000 as of December 31, 2005, on the basis of the assumptions and methods described in this report. The terms of the plan specify that the employers will match the required contributions made by teachers. From an actuarial perspective and assuming that teachers and the employers contribute as described above, there is an expected excess contribution of \$25,994,000 compared to the present value of benefits expected to be accrued in respect of service in the year following December 31, 2005. This excess contribution will be applied against the unfunded liability.

Taking into consideration the current service funding excess, it is expected that the unfunded liability will decrease over the next year. It is anticipated that, barring any other experience gains or losses and assuming the plan assets earn the assumed 7.38% investment return, the unfunded liability will decrease by approximately \$3,879,000 during 2006. This is because the excess contribution is more than enough to pay the interest on the unfunded liability based on the investment return assumption that has been used in this report. We have not been asked to determine in this report the funding that would be required to amortize the unfunded liability.

As the total current service funding excess amounts up to the next valuation are less than the unfunded liability, we believe that, in accordance with subsection 147.2 (2)(c) of the *Income Tax Act*, the contributions required by the Government would be eligible contributions under the *Income Tax Act*.

In certain circumstances, member contributions may be in excess of the limits prescribed by the *Income Tax Act*. We have relied on information provided by the Nova Scotia Pension Agency that member contributions would be acceptable under the *Income Tax Act*.

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# **Actuarial Opinion**

# With respect to the Actuarial Valuation as at December 31, 2005 of the Nova Scotia Teachers' Pension Plan

Based on the results of this valuation, we hereby certify that, as at December 31, 2005,

- The employer's current service cost for 2006 and subsequent years, up to the next actuarial valuation should be calculated as 13.31% of teachers' pensionable earnings.
- The estimated teachers' required contributions and matching Government contributions are expected to be \$53,929,000 each, which will exceed the current service cost for the 12 months following the valuation date, \$81,864,000, by \$25,994,000. The excess amount will be applied against the unfunded liability.
- The plan would be fully funded on a going-concern basis if its assets were augmented by \$299,658,000.
- In our opinion,
  - the data on which the valuation is based are sufficient and reliable for the purposes of the valuation,
  - the assumptions are, in aggregate, appropriate for the purposes of determining the funded status of the plan as at December 31, 2005 on a going-concern basis, and determining the plan's current service cost, and
  - the methods employed in the valuation are appropriate for the purposes of determining the funded status of the plan as at December 31, 2005 on a goingconcern basis, and determining the plan's current service cost.
- This report has been prepared, and our opinions given, in accordance with accepted actuarial practice.

<ul> <li>All assumptions made for the purposes of the valuation were reasonable at the time the valuation was prepared.</li> </ul>		
Philip Churchill Fellow, Society of Actuaries Fellow, Canadian Institute of Actuaries	Douglas M. Brake Fellow, Society of Actuaries Fellow, Canadian Institute of Actuaries	
Date	Date	

Appendix A

#### **Plan Assets**

#### Sources of Plan Asset Data

As at December 31, 2004, the pension fund was held in trust by the Minister of Finance, however effective April 1, 2006, as a result of the agreement reached between the Province and the Nova Scotia Teachers' Union, the pension fund is held in trust by the Teachers' Pension Plan Trustee Inc.

We have relied upon information provided by the Nova Scotia Pension Agency, for the period from January 1, 2005 to December 31, 2005.

#### Reconciliation of Plan Assets

The pension fund transactions for the period from January 1, 2005 to December 31, 2005 are summarised as follows:

# **Reconciliation of Plan Assets (Market Value)**

	2005
as at January 1	\$3,882,820,000
PLUS	
Members' contributions (matched)	\$56,683,000
Government contributions (matched)	\$56,683,000
Members' contributions (not matched)	\$2,677,000
Adjustment to Government contribution re change in contributions receivable	(\$699,000)
ERP Payments	\$17,300,000
Provincial contribution re 2005 agreement	\$144,378,000
Investment income	\$513,238,000
	\$790,260,000
LESS	
Pensions paid	\$257,160,000
Net transfers to other plans	\$287,000
Expenses	\$5,473,000
	\$262,920,000
as at December 31	\$4,410,160,000

In addition, there are scheduled payments to be made by the Province in respect of an early retirement program that ended on July 31, 1998. There are also a number of payables and receivables due from / to the fund.

The value of assets used for the purposes of this valuation equals the market value of the assets in the pension trust fund, adjusted for the net receivables / payables plus the present value of the remaining payments by the Province under the early retirement program.

Therefore, the actuarial value of assets is equal to:

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

Invested assets at December 31, 2005	\$4,410,160,000
Receivable from Province re ERP	\$21,391,000
Other receivables	\$23,774,000
Payables	(\$70,882,000)
Actuarial value of assets at December 31, 2005	\$4,384,443,000

The return on plan assets (net of expenses) since the last valuation at December 31, 2004 was 12.35%. This rate was greater than the assumed investment return of 7.38% by 4.97% and contributed to an experience gain of \$194,083,000.



# **Actuarial Methods and Assumptions**

Actuarial Valuations Methods — Going-Concern Basis

#### Valuation of Assets

For this valuation, we have used the market value of plan assets adjusted as described in Appendix A.

#### Valuation of Actuarial Liabilities

Over time, the real cost to the sponsor of a pension plan is the excess of benefits and expenses over member contributions and investment earnings. The actuarial cost method allocates this cost to annual time periods.

For purposes of the going-concern valuation, we have continued to use the *projected unit credit actuarial cost method*. Under this method, we determine the actuarial present value of benefits accrued in respect of service prior to the valuation date, including ancillary benefits, based on projected final average earnings. This is referred to as the *actuarial liability*. For each individual plan member, accumulated contributions with interest are established as a minimum actuarial liability.

The *funding excess* or *unfunded liability*, as the case may be, is the difference between the actuarial value of assets and the actuarial liability.

#### **Current Service Cost**

The *current service cost* is the actuarial present value of projected benefits to be paid under the plan with respect to service during the year following the valuation date.

The current service cost has been expressed as a percentage of the teachers' pensionable earnings to provide an automatic adjustment in the event of fluctuations in membership and/or pensionable earnings.

Under the projected unit credit actuarial cost method, the current service cost for an individual member will increase each year as the member approaches retirement. However, the current service cost of the entire group, expressed as a percentage of the teachers' pensionable earnings, can be expected to remain stable as long as the average age of the group remains constant.

# Actuarial Assumptions — Going-Concern Basis

The actuarial value of benefits is based on economic and demographic assumptions. At each valuation, we determine whether, in our opinion, the actuarial assumptions are still appropriate for the purposes of the valuation, and we revise them if necessary.

In this valuation, we have used the same assumptions as in the previous valuation. These assumptions have been determined such that the resulting liabilities and current service cost are no more than are needed to comply with the applicable legislation and accepted actuarial practice. Emerging experience will result in gains or losses that will be revealed and considered in future actuarial valuations. For this valuation, we have used the following assumptions.

#### **Economic Assumptions**

#### Investment Return

We have assumed that the investment return on the actuarial value of the fund, net of expenses charged to the fund, will average 7.38% per year over the long term. This is based on an assumed inflation rate of 3.0% per year compounded with a real rate of return of 4.25% per year.

#### **Expenses**

The assumed Investment Return reflects an implicit provision for expenses.

#### Increases in Pensionable Earnings

The benefits ultimately paid will depend on each teacher's final average earnings at either retirement, disability, death or termination of employment.

To determine the final average earnings, we have taken the teacher's annualised earnings during the 2004 - 2005 school year, increased by 1.8% to reflect the impact of the increase effective August 1, 2005 and assumed that earnings will increase by 3.5% per annum plus a promotional scale. For those teachers who joined the plan after July 31, 2005, we have annualised the teacher's earnings from August 1, 2005 to December 31, 2005.

The total annual salary increases after the valuation date are detailed in the table below:

# Total Annual Increase in Teachers' Pensionable Earnings

Age Group	Annual Increase
under age 30	6.25%
30 – 34	5.75%
35 – 39	5.25%
40 – 44	4.75%
45 – 49	4.25%
50 – 59	3.75%
60 plus	3.5%

#### Increases in the YMPE

Since the benefits provided by the plan depend on the final average Year's Maximum Pensionable Earnings ("YMPE") under the Canada Pension Plan ("CPP"), it is necessary to make an assumption about increases in the YMPE for this valuation. We have assumed that the YMPE will increase at the rate of 3.5% per year from its 2005 level of \$41,100.

#### Increases in the Maximum Pension Permitted under the Income Tax Act

The Income Tax Act stipulates that the maximum lifetime pension that can be provided under a registered pension plan for service after December 31, 1991 is \$2,111.11 per year of service for retirements that occur in 2006. The maximum pension will be increased to specified amounts for each year from 2007 to 2009, and automatically, starting in 2010, in accordance with general increases in the average wage.

For this valuation, we have assumed that the maximum lifetime pension payable under the plan will increase as specified in the Income Tax Act from 2006 to 2009 and will increase starting in 2010 at the rate of 3.5% per year.

#### Indexation of Pensions in Payment

On June 22, 2005, an agreement was reached with the Nova Scotia Teachers' Union to change the method for determining post-retirement indexing for new retirees on and after August 1, 2006. In 2006 and 2007, indexing will be provided to these retirees at 50% of the increase in the Consumer Price Index ("CPI"). After 2007, post-retirement indexing to these retirees will be based on the funded status of the plan as determined in the most recently completed going-concern actuarial valuation.

Pensions in payment at December 31, 2005 and pensions payable to teachers expected to retire before August 1, 2006 are increased each year by the change in CPI for the year ending October 31, minus 1%, to a maximum of 6%.

For this valuation, we have assumed that the CPI will increase at the rate of 3.0%. Consequently, pensions in payment are assumed to increase annually at the rate of 2.0%.

For those members eligible for the new indexing provisions, in years where indexing is at the discretion of the Trustee, no indexing is assumed to be paid.

#### Interest Credited on Employee-Required Contributions

For this valuation, we have assumed that the interest rate to be credited on teacher's required contributions will represent, on average, 7.38% per annum, over the long term.

# **Demographic Assumptions**

#### Retirement Age

We have assumed that 60% of the active teachers would retire at the earliest age at which they would be eligible for an unreduced pension. The remainder are assumed to retire at the earliest of:

- age 65;
- 35 years of service; or
- age 60 with 10 years of service

Teachers who had already attained the normal retirement age (age 65) are assumed to retire immediately.

Inactive teachers are assumed to retire at their earliest unreduced retirement date.

#### Termination of Employment

We have made an allowance for future reductions or increases, if any, in liabilities which occur as teachers terminate their employment before retirement for reasons other than death.

We have assumed that teachers would terminate at the rate of 5% per annum in each of the first two years of membership.

#### Mortality

The actuarial value of the pension depends on the life expectancy of the member, and, if applicable, the member's spouse. We have assumed mortality rates, both before and after retirement, in accordance with the 1994 Group Annuity Mortality (GAM) Table projected to 2000 using scale AA. According to this table, the life expectancy at age 65 is 18.4 years for males and 21.6 years for females.

#### Disability

We have made an allowance for the possibility that teachers may receive a disability pension. The rates are the same for males and females and have been applied only to teachers between the ages of 35 and 59. Sample rates are shown in the following table.

#### **Disability Rates**

Age	Percentage
35	0.05%
40	0.10%
45	0.15%
50	0.40%
55	1.00%
59	1.50%

#### Family Composition

Benefits in case of death, before and after retirement, depend on whether the teacher has an eligible spouse, child or dependent at the time of death.

For this valuation, we have assumed that 85% of male teachers and 75% of female teachers will have an eligible spouse on the earlier of death or retirement, and that the male partner will be three years older than the female partner. We have made no allowance for new orphan or dependent benefits payable on the death of a teacher, other than those already in payment at the valuation date.

After retirement, 85% of members with a spouse at retirement are assumed to have a spouse at the date of the valuation.

# Actuarial Valuation Methods and Assumptions — Wind-Up Basis

To determine the wind-up actuarial liability, we have valued those benefits that would have been paid had the plan been wound up on the valuation date, with all members fully vested in their accrued benefits.

We have considered that all non-retired teachers would be entitled to a deferred or immediate pension (reduced in accordance with the plan rules) payable from the age that maximizes the value of the teacher's accrued benefits. For each individual plan member, accumulated contributions with interest are established as a minimum actuarial liability.

Benefits are assumed to be settled through a lump sum transfer for all non-retired teachers under age 50. The value of the benefits accrued on December 31, 2005, for such members is based on the assumptions described in the Recommendations for the Computation of Transfer Values from Registered Pension Plans of the Canadian Institute of Actuaries

applicable for December 31, 2005 for benefits expected to be settled through transfer in accordance with relevant portability requirements.

Benefits are assumed to be settled through the purchase of annuities for all retired teachers and non-retired teachers age 50 and over. The value of the benefits accrued on December 31, 2005, for such members is based on an estimate of the cost of settlement through purchase of annuities. Assumptions are as follows:

#### **Actuarial Assumptions**

Mortality rates:	UP94 projected to 2015
Interest rates for benefits to be settled through lump sum transfer:	<ul> <li>Pre-retirement: 4.5% per year for the first 10 years following 31.12.2005, 5.0% thereafter.</li> <li>Post-retirement: 3.25% per year for the first 10 years following 31.12.2005, 3.5% thereafter.</li> </ul>
Interest rates for benefits to be settled through annuity purchase:	<ul> <li>Active teachers age 50 and over:</li> <li>Pre-retirement: 4.5% per year</li> <li>Post-retirement: 3.15% per year</li> <li>Pensioners: 2.85% per year</li> </ul>
Final average earnings:	Calculated using the final pensionable earnings and the assumed rate of increase in earnings
Family composition:	Same as for going-concern valuation
Maximum pension limit:	\$2,111.11
Termination expenses:	\$4,000,000

In a wind-up valuation, the accrued benefits are based on the member's final average earnings on the valuation date; therefore no salary projection is used. Also, the employment of each member is assumed to have terminated on the valuation date, therefore, no assumption is required for future rates of disability and termination of employment.



# **Membership Data**

# Analysis of Membership Data

The actuarial valuation is based on membership data as at December 31, 2005, provided by the Nova Scotia Pension Agency.

We have applied tests for internal consistency, as well as for consistency with the data used for the previous valuation. These tests were applied to membership reconciliation, basic information (date of birth, date of hire, date of membership, gender, etc.), pensionable earnings, credited service, contributions accumulated with interest and pensions to retirees and other members entitled to a deferred pension. The results of these tests were satisfactory.

Plan membership data are summarised below. For comparison, we have also summarised corresponding data from the previous valuation.

# **Membership Data**

	31.12.2005	31.12.2004
Active Teachers		
<ul><li>Number</li></ul>	13,030	12,964
<ul> <li>Average pensionable earnings for following year</li> </ul>	\$53,086	\$51,792
<ul> <li>Average years of pensionable service</li> </ul>	12.7 years	13.5 years
<ul> <li>Average age</li> </ul>	43.1	43.6
Inactive Teachers		
<ul><li>Number</li></ul>	4,915	4,926
<ul> <li>Average annual pension</li> </ul>	\$921	\$828
<ul> <li>Average age</li> </ul>	44.2	43.9
Pensioners and Survivors		
<ul><li>Number</li></ul>	9,797	9,242
<ul> <li>Average annual lifetime pension</li> </ul>	\$24,337	\$23,738
<ul> <li>Average annual bridge benefit</li> </ul>	\$7,785	\$7,515
<ul> <li>Average age</li> </ul>	67.2	67.4

The membership movement for all categories of membership since the previous actuarial valuation is as follows:

# **Reconciliation of Membership**

	Active Teachers	Inactive Teachers	Pensioners and Beneficiaries
Total at 31.12.2004	12,964	4,926	9,242
New entrants	1,092		
Adjustments	(26)	(84)	2
Transfers to inactive	(459)	459	
Transfers from inactive	202	(202)	
Terminations/refunds	(82)	(143)	
Deaths	(10)	(5)	(218)
Pensions ceased			(22)
Regular retirements	(605)	(33)	638
Disability retirements	(46)	(3)	49
New pensions due to marriage breakdown			11
Beneficiaries			95
Total at 31.12.2005	13,030	4,915	9,797

The distribution of the active teachers by age and pensionable service as at December 31, 2005, is summarised as follows:

Distribution of Active Teachers by Age Group and Pensionable Service as at 31.12.2005

	Years of Pensionable Service								
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
20 - 24	146 30,247								146 30,247
25 - 29	1,344 32,281	152 39,387							1,496 33,003
30 - 34	612 35,949	853 44,692	290 52,898						1,755 42,999
35 - 39	347 39,735	368 48,886	741 56,398	187 57,640					1,643 51,338
40 - 44	272 42,167	199 49,690	261 58,250	552 60,315	238 62,210				1,522 55,625
45 - 49	234 43,086	190 51,627	200 56,661	257 61,839	595 62,475	507 63,252			1,983 58,678
50 - 54	155 45,284	148 50,822	151 53,239	207 62,009	233 61,874	935 64,960	805 65,026	3 57,778	2,637 61,846
55 - 59	118 43,006	74 54,447	76 54,627	121 60,363	140 60,863	221 65,027	712 66,859	139 64,788	1,601 62,499
60 - 64	45 39,841	26 48,330	16 62,120	24 53,907	25 63,162	25 63,898	39 65,062	38 63,711	238 56,605
65 +	3 39,211	1		1		1	1	2	9 51,852
Total	3,276 36,370	2,011 47,056	1,735 55,822	1,349 60,392	1,231 62,141	1,689 64,426	1,557 65,868	182 64,527	13,030 53,086

Note: Each cell contains the number of teachers and average pensionable earnings. Pensionable earnings in cells with less than three teachers are not shown for confidentiality reasons.

The distribution of the inactive members by age as at December 31, 2005, is summarised as follows:

# Distribution of Inactive Members By Age Group as at 31.12.2005

	Inactive Teachers		Pensioners	and Survivors*
Age	Number	Average Pension	Number	Average Pension
20 – 24	2	\$25		
25 - 29	328	\$99		
30 - 34	774	\$343	3	\$2,887
35 – 39	823	\$450	3	\$11,583
40 – 44	751	\$790	10	\$11,082
45 - 49	673	\$1,087	44	\$12,395
50 - 54	588	\$2,026	178	\$19,483
55 - 59	521	\$1,794	2,211	\$27,064
60 - 64	267	\$1,173	2,174	\$26,151
65 - 69	126	\$671	1,546	\$25,417
70 - 74	27	\$239	1,117	\$24,683
75 - 79	20	\$116	807	\$24,987
80 - 84	5	\$56	615	\$20,894
85 - 89	5	\$329	517	\$19,222
90 - 94	1	\$6	327	\$17,473
95+	4	\$387	119	\$12,098
Total	4,915	\$921	9,671	\$24,592

<sup>\*</sup> Excludes dependents and bridge benefits.



# **Summary of Plan Provisions**

#### Introduction

This valuation is based on the plan provisions in effect on December 31, 2005. Since the previous valuation, an agreement was reached between the Province of Nova Scotia and the Nova Scotia Teachers' Union which changes the method used to determine the post-retirement indexing for new retirees on and after August 1, 2006. The following is a summary of the plan's main provisions in effect on December 31, 2005. It is not intended as a complete description of the plan. Refer to the Teachers' Pension Act and Regulations for a complete description of the plan.

# Eligibility for Membership

All teachers, with a few exceptions, must join the plan on their date of employment.

#### Contributions

Teachers contribute 8.3% of earnings up to the Year's Maximum Pensionable Earnings ("YMPE") plus 9.9% of earnings in excess of the YMPE.

The participating employers contribute an amount equal to that of the teachers plus any additional amounts that may be prescribed.

#### Retirement Dates

#### **Normal Retirement Date**

The normal retirement date is the last day of the month in which the teacher attains age 65, or if the teacher so elects, the end of the school year in which the teacher attains age 65.

## **Early Retirement Date**

Provided the sum of the teacher's attained age and years of pensionable service is at least 85, the teacher may retire at age 55.

If a teacher has at least 10 years of pensionable service, the teacher may choose to retire as early as age 60. A teacher may also retire upon the completion of 35 years of pensionable service.

A teacher who is at least 55 years of age and has at least two years of service, or is at least 50 years of age and has at least 30 years of service may retire subject to a possible reduction in pension payable.

#### **Disability Retirement**

A teacher may be retired on account of disability. The disability must be medically certified as likely to be permanent.

#### Retirement Benefits

#### **Normal Retirement**

If a teacher retires on the normal or early retirement date, the teacher will be entitled to the sum of the following:

#### **Normal or Early Retirement Benefits**

#### 1. Lifetime Pension - Non-CPP Service

2.0% of the average of the teacher's best five years earnings for each year of non-CPP pensionable service.

**PLUS** 

#### 2. Lifetime Pension - CPP service

1.3% of the average of the teacher's best five years earnings up to the average YMPE plus 2.0% of the best five years earnings in excess of the average YMPE for each year of CPP pensionable service.

**PLUS** 

3. Bridge Benefit (payable to age 65)

0.7% of the lesser of the average of the teacher's best five years of earnings and the average YMPE for each year of CPP pensionable service.

Notes: The average YMPE is determined over the same five years of service as the teacher's best 5 years of earnings.

Pensionable service is limited to a maximum of 35 years.

Reduced pensions are calculated on the above basis less a factor of 4% - 5% for each year by which the teacher has retired early.

## **Disability Retirement Pension**

If a teacher retires due to total disability, the pension payable is 2.0% of the average of the teacher's best five years earnings for each year of pensionable service to the date of disability retirement (maximum 35 years). A partial disability pension is paid at the above rate less 17%. In addition, a partial disability pension is subject to a minimum reduction of 0.25% for each month that the pension commences prior to the earliest date at which the member would otherwise be eligible for an unreduced pension.

#### Indexing

Beginning July 1, 2006, pensions in payment at December 31, 2005 and pensions for teachers who retire prior to August 1, 2006 (excluding those teachers who elect the "new" indexing provisions) are indexed each July 1 by the increase in the Consumer Price Index ("CPI") for Canada for the year ending April 30, minus 1%, to a maximum of 6%. Indexing on July 1, 2006 will be based on the increase in CPI over a six-month period.

Teachers who retire on or after August 1, 2006 and those who retire prior to that date and elect to have indexing applied under the "new" rules will have their pensions indexed on July 1, 2006 and 2007 at the rate of 50% of the increase in CPI. Starting in 2008, indexing will be based on the funded status of the plan as determined in the most recently completed going-concern actuarial valuation. If the funded ratio is less than 90%, no indexing will be provided. If the funded ratio is between 90% and 100%, indexing will be granted at 50% of the increase in CPI at the discretion of the plan Trustee. If the funded ratio is greater than 100%, indexing will be provided at 100% of the increase in CPI to the extent that such an increase will not reduce the funded ratio to below 100%, in which case pensions will be increased by at least 50% of the increase in CPI.

#### Survivor Benefits

#### **Death Before Retirement**

If a teacher dies prior to retirement, and prior to completing two years of pensionable service the teacher's beneficiary or estate will receive a lump sum payment of the teacher's contributions with interest.

If, however, the teacher had two or more years of pensionable service and leaves a spouse, in lieu of a refund, the spouse will receive an immediate lifetime pension equal to 60% of the lifetime pension accrued to the member including the bridge benefit for service prior to December 31, 1991. An additional pension equal to 10% of the pension accrued to the member is payable to each surviving child under age 18 (subject to a maximum total of 40%). This pension is payable until age 25 if the child is a student and for life if the child is disabled.

In addition to the pension payable to each eligible child described above, if there is no surviving spouse but there are dependent children under the age of 18 or age 25 if still in school, 60% of the pension, as indicated above, will be paid equally to each eligible child.

If there is no surviving spouse or dependent child, the beneficiary or estate will receive a lump sum payment of the teacher's contributions with interest.

#### **Death After Retirement**

Retiring teachers may elect to receive their pension in one of a number of optional forms of pension. Such optional forms include survivor lifetime pensions and bridge benefits of 80% or 100% of the lifetime pension and bridge benefit otherwise payable prior to the retired teacher's death and/or guarantee periods of 5, 10 or 15 years. The pension payable under the optional forms will be determined as the actuarial equivalent of the normal form of pension.

Under the normal form of pension, pension payments cease upon the death of the pensioner. If, however, the deceased pensioner has a spouse at the date of death then survivor benefits are payable under the normal form of pension as follows:

Situation	Spousal Pension Received Prior to When the Member Would Have Turned 65	Spousal Pension Received Once the Member Would Have Turned 65
Member pensioner dies prior to age 65	60% of pension payable to member, including bridge benefit	60% of pension payable to member plus 60% of the bridge benefit for service prior to January 1, 1992
Member pensioner dies after reaching age 65	N/A	60% of pension payable to member

In addition to the above, a pension of 10% of the pension payable to the member (as described in the table above) is paid to each eligible surviving child (to a maximum of 40%).

#### **Termination Benefits**

If a teacher's employment terminates for reasons other than death, disability or retirement, the benefits payable from the plan will depend on the teacher's pensionable service, as follows:

## Benefits in the Event of Termination of Employment

If teacher has:	If all service is prior to 01-Jan-1988:
Less than ten years of pensionable service	A refund of the teacher's contributions with interest.
At least ten years of pensionable service	A refund of the teacher's contributions with interest or a deferred pension from normal or early retirement.
	If some service is after 31-Dec-1987:
Less than two years of pensionable service	A refund of the teacher's contributions with interest
At least two years of pensionable service	A deferred pension from normal or early retirement

If a teacher is entitled to a deferred pension, for service from January 1, 1988, the teacher may transfer the commuted value of that pension to another retirement vehicle in accordance with the applicable federal legislation. A teacher may also transfer any refund of contributions with interest with respect to pre-1988 service to another retirement vehicle in accordance with the regulations.

Appendix E	

#### **Administrator Certification**

With respect to the report on the actuarial valuation of the *Nova Scotia Teachers' Pension Plan*, as at December 31, 2005, I hereby certify that, to the best of my knowledge and belief:

- a copy of the official plan documents and of all amendments made up to December 31, 2005, were provided to the actuary;
- the membership data provided to the actuary includes a complete and accurate description of every person who is entitled to benefits under the terms of the plan for service up to December 31, 2005, and
- all events subsequent to December 31, 2005 that may have an impact on the results of the valuation have been communicated to the actuary.

Date	Signed	
	Name	



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