### March 2011

## Metropolitan Toronto Pension Plan

Report on the Actuarial Valuation for Funding Purposes as at December 31, 2010

## **MERCER**

Financial Services Commission of Ontario and Canada Revenue Agency Registration Number: 0351577

#### Note to reader regarding actuarial valuations:

This valuation report may not be relied upon for any purpose other than those explicitly noted in the Introduction, nor may it be relied upon by any party other than the parties noted in the Introduction. Mercer is not responsible for the consequences of any other use. A valuation report is a snapshot of a plan's estimated financial condition at a particular point in time; it does not predict a pension plan's future financial condition or its ability to pay benefits in the future.

If maintained indefinitely, a plan's total cost will depend on a number of factors, including the amount of benefits the plan pays, the number of people paid benefits, the amount of plan expenses, and the amount earned on any assets invested to pay the benefits. These amounts and other variables are uncertain and unknowable at the valuation date.

To prepare this report, actuarial assumptions are used to model the results for a single scenario from a range of possibilities. The results of that single scenario are included in this report. However, the future is uncertain and the plan's actual experience will differ from those assumptions; these differences may be significant. In addition, different assumptions or scenarios may also be within the reasonable range and results based on those assumptions would be different. Actuarial assumptions may also be changed from one valuation to the next because of changes in regulatory and professional requirements, developments in case law, plan experience, changes in expectations about the future and other factors.

Furthermore, should the plan be wound up, the going concern funded status and solvency financial position, if different from the wind-up financial position, become irrelevant. The hypothetical wind-up financial position estimates the financial position of the plan assuming it is wound-up on the valuation date. Emerging experience, including the growth of wind-up liabilities compared to the plan's assets (including future contributions and investment returns), will affect the wind-up financial position of the plan assuming it is wound-up in the future. In fact, even if the plan were wound-up on the valuation date, the financial position would continue to fluctuate until the benefits are fully settled.

Because actual plan experience will differ from the assumptions, decisions about benefit changes, investment policy, funding amounts, benefit security and/or benefit-related issues should be made only after careful consideration of alternative future financial conditions and scenarios, and not solely on the basis of a valuation report or reports.

## **Contents**

1.	Summary of Results	1
2.	Introduction and Executive Summary	3
3.	Plan Assets	9
4.	Valuation Results – Going Concern Basis	14
5.	Reconciliation of Going-Concern	16
6.	Valuation Results – Solvency Basis	17
7.	Indexation Reserve Account	20
8.	Recommendations	22
9.	Actuarial Opinion	24
Apı	pendix A: By-law Provisions	
Apı	pendix B: Membership Data	
Apı	pendix C: Actuarial Methods and Assumptions – Going Concern Basis	
Apı	pendix D: Actuarial Methods and Assumptions – Solvency Basis	
Apı	pendix E: Projectons and Sensitivity Illustrations	
Apı	pendix F: Employer Certification	

1

## **Summary of Results**

Asset Values	31.12.2010	31.12.2009
Market value of assets	\$563,510,000	\$569,518,000
Rate of return during the year, based on market values (gross)	9.34%	14.30%
Actuarial value of assets	\$554,508,000	\$599,848,000
Rate of return during the year, based on actuarial values (net of investment expenses)	1.83%	1.98%
Going-Concern Financial Position	31.12.2010	31.12.2009
Actuarial value of assets	\$554,508,000	\$599,848,000
Actuarial liability	484,808,000	511,622,000
Funding excess	\$69,700,000	\$88,226,000
Wind-Up Financial Position	31.12.2010	31.12.2009
Market value of assets (net of estimated Plan		
termination expenses)	\$563,093,000	\$569,085,000
Wind-Up liability	522,149,000	552,314,000
Wind-Up excess (deficiency)	\$40,944,000	\$16,771,000
Transfer ratio	1.00	1.00

Solvency Financial Position	31.12.2010	31.12.2009
Solvency assets	\$563,093,000	\$569,085,000
Solvency asset adjustment	(16,090,000)	23,527,000
Adjusted solvency assets	\$547,003,000	\$592,612,000
Solvency liability	\$522,149,000	\$552,314,000
Solvency liability adjustment	(5,308,000)	(5,356,000)
Adjusted solvency liability	\$516,841,000	\$546,958,000
Solvency excess (deficiency)	\$30,162,000	\$45,654,000
Indexation Reserve Account (lesser of funding excess and solvency excess)	\$30,162,000	\$45,654,000
Plan Membership	31.12.2010	31.12.2009
Active	4	4
Suspended or disabled	2	3
Retired members in receipt of pensions	1,724	1,830
Surviving spouses in receipt of pensions	1,031	1,037
Vested deferred pensioners		4
Total membership	2,765	2,878
Funding Requirements (annualized)	2011	2010
Total current service cost	\$0	\$0
Estimated member required contributions	(0)	(0)
Employer current service cost	\$0	\$0
Minimum special payments	\$0	\$0
Estimated minimum Employer contribution	\$0	\$0
Estimated maximum Employer contribution	\$0	\$0

2

# Introduction and Executive Summary Introduction

### To: Trustees, Metropolitan Toronto Pension Plan

At your request, we have conducted an actuarial valuation of the Metropolitan Toronto Pension Plan (the "Plan") as at December 31, 2010. The previous actuarial valuation was prepared as at December 31, 2009.

The purpose of this valuation is to determine:

- the funded status of the Plan as at December 31, 2010 on going-concern, hypothetical wind-up and solvency bases,
- the minimum funding requirements by the City of Toronto (the "Employer") and the Plan members during the period from January 1, 2010 through December 31, 2010, in accordance with the *Pension Benefits Act (Ontario)*, and
- the maximum permissible funding contributions by the Employer from January 1, 2011, in accordance with the *Income Tax Act*.

The information contained in this report was prepared for the internal use of the Employer, the Trustees and for filing with the Financial Services Commission of Ontario ("FSCO") and with the Canada Revenue Agency ("CRA"), in connection with our actuarial valuation of the Plan. This report is not intended or suitable for any other purpose.

In accordance with pension benefits legislation, the next actuarial valuation of the Plan will be required as at a date not later than December 31, 2013, or as at a date of an earlier amendment to the Plan.

### **Terms of Engagement**

In accordance with our terms of engagement with the Trustees, our actuarial valuation of the Plan is based on the following material terms:

- It has been prepared in accordance with applicable pension legislation and actuarial standards of practice in Canada; and
- We have reflected the Trustees' decisions for determining the solvency funding requirements, summarized as follows:
  - The same plan wind-up scenario was hypothesized for both hypothetical wind-up and solvency valuations;
  - No benefits were excluded from the solvency liabilities; and
  - The solvency financial position was determined on a 4 year smoothed basis.

See the Valuation Results - Solvency section of the report for more information

### **Executive Summary**

### Summary of Results

#### a) Plan Assets

For purposes of the going-concern valuation, the assets are valued on a smoothed market value basis.

A description of the asset valuation method is provided in Section 3. There were no changes to the method used to value the Plan's assets.

The assets of the Plan, as reported on financial statements obtained from the custodian, have changed as follows during 2010.

	December 31, 2009	December 31, 2010	Rate of Return in 2010 *
Market Value	\$569,518,000	\$563,510,000	9.19%
<b>Actuarial Value</b>	\$599,848,000	\$554,508,000	1.83%

<sup>\*</sup> The rate of return is net of investment expenses.

### b) Going-Concern Financial Position as at December 31, 2010

On a going-concern basis, the actuarial value of assets of \$554,508,000 exceeds the actuarial liabilities of \$484,808,000 by \$69,700,000. The funding excess has decreased from an amount of \$88,226,000 as at December 31, 2009 to an amount of \$69,700,000 as at December 31, 2010. This is primarily the result of a change to the By-law provisions to pay the cost of living increase provided at January 1, 2010 and net experience losses primarily due to the worse than expected performance of the assets on an actuarial value basis. Further details can be found in Section 4.

### c) Solvency/Wind-up Position as at December 31, 2010

On a solvency basis, the value of the assets of \$547,003,000 (market value less estimated termination expenses plus the solvency asset adjustment) exceeds the actuarial liabilities of \$516,841,000, producing a solvency excess of \$30,162,000. The previous valuation at December 31, 2009 indicated a solvency excess of \$45,654,000.

The change in the solvency position since the previous valuation is primarily the result of losses from the cost of the January 1, 2010 cost of living increase and losses resulting from the worse than expected performance of the assets on the actuarial value basis. Further details can be found in Section 6.

On a wind-up basis, the value of the assets of \$563,093,000 (market value less estimated termination expenses) exceeds the actuarial liabilities of \$522,149,000, producing a wind-up excess of \$40,944,000. The previous valuation at December 31, 2009 indicated a wind-up excess of \$16,771,000.

### d) Funding Requirements

Since all active members have completed 35 years of credited service at the date of this valuation, there are no member or Employer contribution requirements in 2011, in respect of current service.

Since the Plan is fully funded on both the going-concern and solvency bases, there are no Employer contribution requirements in 2011 in respect of past service.

### e) Plan Membership

The membership data received from the Employer for purposes of this valuation include:

- 4 active members, consisting of all regular members, having an average age of 64.5 years and 2010 pensionable earnings totalling \$309,944.
- 2 disabled and suspended members having an average age of 66.7 years;
- 1,724 retired members having an average age of 78.6 years, in receipt of annual pensions totalling \$40,553,995;
- 1,031 surviving spouses having an average age of 80.8 years, in receipt of annual pensions totalling \$13,786,034;
- 4 members who are former employees with vested deferred pension entitlements estimated at \$12,924 per annum in total, with an average age of 76.2 years.

During 2010, there was no change in the active membership, with 4 remaining actives at the current valuation date. The number of retired members and surviving beneficiaries receiving pensions from the Plan decreased from 2,867 to 2,755.

During the inter-valuation period, there was 1 new retirement (from vested deferred status) at age 65.0 years.

Reconciliation of these membership changes and further details are included in Appendix B.

### Recommendations

Based on the results of this valuation, it is recommended that an increase of 1.78% be granted on pensions, effective January 1, 2011, to pensioners on benefit for more than one year and a proportionate increase of 0.1483% for each month of pension payment made in 2010 be granted for pensioners who retired during 2010.

The total estimated cost to provide this increase is \$8,415,000, on the going-concern basis or \$8,980,000, on the solvency basis.

# Events Since the Last Valuation at December 31, 2009 Changes in Actuarial Assumptions and Methods

We have used the same going-concern valuation assumptions and methods as were used for the valuation as at December 31, 2010, except as follows:

 the assumption for future salary increases was changed to 3.50% per year from 4.50% per year, and

These changes have decreased the going-concern actuarial liability by \$5,000 at December 31, 2010.

There were no other changes made to the going-concern actuarial assumptions and methods from the assumptions used in the previous valuation at December 31, 2009. A complete description of the going-concern actuarial methods and assumptions is provided in Appendix C.

## Changes in By-law Provisions

An increase of 0.30% was granted on pensions, retroactively to January 1, 2010, to pensioners on benefit for more than one year. A proportionate increase of 0.025% for each month of pension payment made in 2009 was granted for pensioners who retired during 2009. The cost of providing this increase was \$1,494,000 on the going-concern basis, or \$1,598,000 on the solvency basis.

There have been no other changes to the By-law provisions since the previous valuation as at December 31, 2009.

A summary of the main By-law provisions in effect on the valuation date is provided in Appendix A.

## Regulatory Environment and Actuarial Standards

There have been no changes to the *Ontario Pension Benefits Act* (the "Act") or the relevant Regulations which impact the funding of the Plan. However, the Government of Ontario has announced its intentions to makes changes to the funding requirements for pension plans registered in Ontario. Since then Bill 120 received Royal assent. The intended changes to the funding requirements which impact the funding of single-employer pension plans will be contained in regulations which have not yet been adopted.

A new Canadian Institute of Actuaries Standard of Practice – Practice Specific Standards of Practice for Pension Plans became effective December 31, 2010 (the "CIA Pension Standards"). The requirements of the CIA Pension Standards have been reflected in this report.

## **Subsequent Events**

It has been discovered that, in respect of members who retired since January 1, 1987, the 50% rule refund of excess contributions amount may not have been processed. The estimated impact of the above has been reflected in this report by inclusion of an additional reserve of \$2,000,000 in the liabilities.

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

3

### **Plan Assets**

The going-concern assets are recorded at an "Actuarial Value" which is determined as follows:

- 1. The market value of total assets at the previous year-end is accumulated, together with the current year's cash flow, with interest at the valuation rate of 5.50%; and
- 2. The difference between the accumulation in (1) and the market value of total assets at the valuation date is spread over the current year and the three succeeding years in four equal amounts.

The value determined in accordance with the above method is \$554,572,000 at December 31, 2010. This amount is further adjusted with net payments in-transit of \$64,000, producing an **Actuarial Value of \$554,508,000** at December 31, 2010.

Amounts in-transit (i.e. payments made in 2011 in respect of 2010) at December 31, 2010 include:

• \$64,000, in respect of investment management fees.

The effect of the foregoing is shown below (in \$ 000).

Assets of the Pension Fund at December 31, 2010	Market Value	Actuarial Value
I. Cash and Equivalents		
<ul> <li>Cash and short-term investments</li> </ul>	14,418	14,418
II. External Management		
<ul><li>Bonds</li></ul>	257,121	257,121
<ul><li>Canadian equities</li></ul>	148,680	148,680
<ul><li>Foreign (U.S.) equities</li></ul>	143,355	143,355
Subtotal	549,156	549,156
III. Smoothing Adjustment		(9,002)
Total (before in-transit amounts)	563,574	554,572
Net amount in-transit	(64)	(64)
Total (after in-transit amounts)	563,510	554,508

Under this adopted asset valuation method, the Plan's investment rate of return in 2010 was equal to 1.83% (net of investment management expenses).

The currently unrecognized elements of the market value of assets will be taken into account in future years in the following amounts (\$ 000).

2011	25% of 2008 loss	(28,112)	
2011		, ,	
	25% of 2009 gain	11,240	
	25% of 2010 gain	4,878	(11,994)
			•
2012	25% of 2009 gain	11,240	
	25% of 2010 gain	4,878	16,118
			•
2013	25% of 2010 gain	4,878	4,878
Total			9,002

The pension fund custodian is CIBC Mellon and the assets are invested in accordance with the investment policy by the following investment managers as at December 31, 2010:

Manager	Investments
TD Asset Management	Bonds & Canadian Equities
Fiera	Bonds
Gryphon	Canadian Equities
State Street	U.S. Equities

## Reconciliation of Fund Assets (\$ 000)

			Market Value	Actuarial Value
Val	ue at 31.12.2009		569,518	599,848
Net	amount in-transit	254	254	254
Adj	usted Value at 31.12.2009		569,772	600,102
I.	Contributions			
	Employee Contributions	0		
	Employer Contributions	0	0	0
II.	Adjusted Investment Income		50,569	11,237
III.	Pensions & Other Benefits			
	Pensions for Members	41,788		
	Pensions for Widows & Others	13,732		
	Death Benefits	0	(55,520)	(55,520)
۱۱	/. Actuarial, Legal and Other Fees			
	Actuarial Fees	308		
	Custodial Fees	69		
	Investment Management Fees	774		
	Other Fees (audit, legal, etc.)	96	(1,247)	(1,247)
Val	ue at 31.12.2010 (before in-transits)	-	563,574	554,572
Net	amount in-transit	(64)	(64)	(64)
Val	ue at 31.12.2010 (after in-transits)		563,510	554,508

## **Investment Policy**

The Plan administrator adopted a statement of investment policy and procedures. This policy is intended to provide guidelines for the manager(s) as to the level of risk which is commensurate with the Plan's investment objectives. A significant component of this investment policy is the asset mix.

The constraints on the asset mix and the actual asset mix at the valuation date are provided for information purposes:

	Investment Policy		_ Actual Asset Mix		
	Minimum	num Target Maximum		as at 31.12.2010	
Canadian Equities	10%	25%	40%	26.4%	
Foreign Equities (US)	15%	25%	35%	25.4%	
Canadian Bonds	30%	45%	60%	45.6%	
Cash and cash equivalents	0%	5%	20%	2.6%	
	- -	100%	<del>_</del>	100.0%	

### Historical Fund Performance

Annual rates of return, net of investment expenses, for the last 13 years are provided below on both a market value and actuarial value bases.

	Year-end Market Value	Market Value Rate of Return	Year-end Actuarial Value	Actuarial Value Rate of Return
2010	\$563,510,000	9.19%	\$554,508,000	1.83%
2009	569,518,000	14.14%	599,848,000	1.98%
2008	553,263,000	-11.50%	645,820,000	1.86%
2007	688,253,000	1.15%	692,666,000	6.67%
2006	740,266,000	9.80%	707,665,000	8.52%
2005	732,883,000	8.52%	711,097,000	4.20%
2004	735,469,000	7.05%	743,769,000	1.63%
2003	748,494,000	9.37%	794,867,000	1.04%
2002	745,915,000	-5.95%	850,667,000	1.79%
2001	859,535,000	-0.16%	899,582,000	7.50%
2000	926,878,000	3.25%	900,371,000	11.67%
1999	965,949,000	9.53%	871,990,000	16.18%
1998	943,011,000	16.45%	810,002,000	17.38%

## Historical Updates to Pensions In-Payment

Annual cost-of-living adjustments (COLA) for the last 24 years, applicable to pensions that have been in payment for at least one year on the effective date, are provided below. Adjustments are currently based on a ratio of the index determined on a 12 month average to December of the current year over the average to December of the prior year.

Effective Date	COLA Update	Effective Date	COLA Update
July 1, 1987	4.75%	January 1, 1999	1.00%
July 1, 1988	3.00%	January 1, 2000	2.60%
July 1, 1989	5.21%	January 1, 2001	3.20%
July 1, 1990	5.10%	January 1, 2002	2.50%
July 1, 1991	5.00%	January 1, 2003	2.30%
July 1, 1992	3.80%	January 1, 2004	2.80%
July 1, 1993	2.10%	January 1, 2005	1.83%
July 1, 1994	1.70%	January 1, 2006	2.23%
July 1, 1995	0.20%	January 1, 2007	2.01%
July 1, 1996	1.80%	January 1, 2008	2.14%
July 1, 1997	2.20%	January 1, 2009	2.37%
July 1, 1998	0.70%	January 1, 2010	0.30%

4

## **Valuation Results - Going Concern Basis**

On the basis of the foregoing, the financial position of the Plan on the going-concern basis as at December 31, 2010, with comparable results from the previous valuation, is summarized below:

## Financial Position – Going-Concern Basis

	Dec. 31, 2010 (\$ 000)	Dec. 31, 2009 (\$ 000)
Assets		
<ul> <li>Value of Pension Fund</li> </ul>	554,572	600,102
<ul> <li>Net amount in-transit</li> </ul>	(64)	(254)
Actuarial value of assets	554,508	599,848
Liabilities		
<ul> <li>Active members</li> </ul>		
Regular members	2,035	2,331
Fire-fighters	0	0
Total actives	2,035	2,331
<ul> <li>Disabled and suspended members</li> </ul>	200	308
<ul> <li>Retired members' pensions</li> </ul>	370,619	397,307
<ul> <li>Spouses and other survivor pensions</li> </ul>	102,145	103,565
<ul> <li>Vested deferred members</li> </ul>	143	139
• Reserve for possible surplus distribution to retired members	7,666	7,972
<ul> <li>Reserve for 50% Rule refunds</li> </ul>	2,000	0
Total actuarial liabilities	484,808	511,622
Funding excess/(unfunded liability)	69,700	88,226

It should be noted that all figures are net of Government Annuity pensions credited to certain members under predecessor pension plans.

### **Current Service Cost**

The estimated value of the benefits that will accrue on behalf of the active members during 2011, and a comparison with the corresponding value for 2010 determined in the prior valuation, is summarized below:

	2011	2010
Estimated Employer current service cost	\$0	\$0
Estimated Member required contributions	\$0	\$0
Employer current service cost as a percentage of member earnings		
<ul><li>Firefighters</li></ul>	6.5% up to YMPE, 8.0% in excess	6.5% up to YMPE, 8.0% in excess
<ul> <li>Other Members</li> </ul>	5.5% up to YMPE, 7.0% in excess	5.5% up to YMPE, 7.0% in excess

As at December 31, 2010 all active members had completed 35.0 years of credited service. Therefore, no further contributions for current service are required by the Employer and the Plan members.

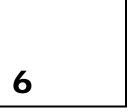
5

## **Reconciliation of Going-Concern**

### **Financial Position**

As the foregoing actuarial balance sheet indicates, the Plan has a funding excess aggregating \$69,700,000 on the valuation date. The analysis of change in the funding excess during 2010 is as follows.

	(\$ 000)	(\$ 000)
Funding Excess at December 31, 2009		88,226
<ul><li>Cost of COLA increase of 0.30% at 1/1/2010</li></ul>	(1,494)	
<ul> <li>Interest on funding excess (deficiency) at 5.50% per year, after COLA</li> </ul>	4,770	3,276
<ul> <li>Change in assumptions</li> </ul>	5	
<ul><li>Data corrections</li></ul>	476	
<ul> <li>Additional reserve for 50% Rule refunds</li> </ul>	(2,000)	(1,519)
Experience gains (losses)		
<ul> <li>Investment experience</li> </ul>	(21,284)	
Retirement experience	14	
<ul> <li>Mortality experience</li> </ul>	191	
<ul> <li>Wage increases (greater) lower than expected</li> </ul>	(51)	
<ul> <li>Recalculation of surplus distribution reserve</li> </ul>	744	
<ul> <li>Miscellaneous gains (losses)</li> </ul>	103	(20,283)
Funding Excess at December 31, 2010		69,700



## Valuation Results - Solvency Basis

When conducting a solvency valuation, we determine the relationship between the respective values of the Plan's assets and its liabilities on a solvency basis, determined in accordance with the *Pension Benefits Act (Ontario)*. The value of the Plan's assets and liabilities on a solvency basis are related to the corresponding values calculated as though the Plan were wound up and settled on the valuation date.

A four year smoothing method (similar to the going-concern smoothing method) has been applied to determine the solvency assets and liabilities. Further details are provided in Appendix D.

## **Financial Position on a Solvency Basis**

The Plan's solvency position as at December 31, 2010, in comparison with that of the previous valuation as at December 31, 2009, is determined as follows:

### Financial Position - Solvency Basis

	Dec. 31, 2010 (\$ 000)	Dec. 31, 2009 (\$ 000)
Assets		
Market value of assets (before in-transit amounts)	563,574	569,772
<ul> <li>Net amount in-transit</li> </ul>	(64)	(254)
Market value of assets (after in-transit amounts)	563,510	569,518
<ul> <li>Termination expenses</li> </ul>	(417)	(433)
Solvency assets	563,093	569,085
Solvency asset adjustment (averaging method)	(16,090) *	23,527 *
Adjusted solvency assets	547,003	592,612
Actuarial liability		
Present value of accrued benefits for:		
<ul> <li>active members</li> </ul>	2,317	2,528
<ul> <li>disabled and suspended members</li> </ul>	219	329
<ul><li>retired members</li></ul>	400,479	430,286
<ul><li>survivors</li></ul>	109,312	111,047
<ul> <li>vested deferred members</li> </ul>	156	152
<ul> <li>reserve for possible surplus distribution to retired members</li> </ul>	7,666	7,972
■ reserve for 50% Rule refunds	2,000	0
Solvency liabilities	522,149	552,314
Solvency liability adjustment	(5,308)	(5,356)
Total actuarial liability	516,841	546,958
Solvency excess/(deficiency)	30,162	45,654
Transfer ratio	1.00	1.00

<sup>\*</sup> Averaging method adjustment = 75% of investment gains from 2010, \$(18,191,000), plus 50% of investment gains from 2009, (\$24,774,000), plus 25% of investment losses from 2008, \$26,875,000.

### Payment of Benefits

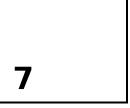
If the transfer ratio is less than one, the Plan administrator should ensure that the monthly special payments are sufficient to meet the requirements of the Act to allow for the full payment of benefits. Otherwise, the Plan administrator should take the actions prescribed by the Act.

### Impact of Plan Wind-Up

In our opinion, the market value of the Plan's assets would be greater than the actuarial liabilities if the Plan were to be wound up on the valuation date. Specifically, as at December 31, 2010 the market value of assets of \$563,093,000 would exceed the actuarial liabilities of \$522,149,000 by an amount of \$40,944,000. For purposes of this calculation, the market value of assets includes amounts in-transit and a provision for termination expenses that might be payable from the pension fund.

### Pension Benefits Guarantee Fund (PBGF) Assessment

In accordance with subsection 47(1)(p.14) of the Regulations under the *Pension Benefits Act (Ontario)*, the pension benefits provided by this Plan are not guaranteed by the Pension Benefits Guarantee Fund (PBGF) and are therefore exempt from the filing of PBGF assessment certificate (subsection 18(7) of the Regulations) and payment of an annual PBGF assessment (section 37 of the Regulations).



## **Indexation Reserve Account**

### General

The pension plan that the Plan can be fairly compared with is the Ontario Municipal Employees Retirement System (OMERS). OMERS has adopted automatic indexation. It was, and is, our opinion that the Plan with its closed membership could not afford to undertake automatic indexation but, instead, must use available assets to meet inflationary pressures on a yearly basis.

Therefore, in 1991 a policy was recommended and adopted that:

- a) assets not required to meet specific current pension liabilities be held in an Indexation Reserve Account (IRA);
- b) the IRA be limited to 30% of the going-concern liability for non-indexed benefits;
- the IRA be built up to the maximum before any allocation of surplus be considered; and
- d) minor improvements in pension benefits and increases in pensions due to cost-of-living inflation should be limited to the extent that the IRA is sufficient.

## **Indexation Reserve Account**

The change in the Indexation Reserve Account during 2010 is outlined below.

	(\$ 000)	(\$ 000)
Indexation Reserve Account at December 31, 2009		45,654
January 1, 2010 cost-of-living increases to pensions		(1,598)
Indexation Reserve Account at January 1, 2010		44,056
Indexation Reserve Account at December 31, 2010		
a) Going-concern excess (deficiency)	69,700	
b) Solvency excess (deficiency)	30,162	
Indexation Reserve Account (lesser of (a) and (b))		30,162
January 1, 2011 recommended cost-of-living increases to pensions		(8,980)
Indexation Reserve Account at January 1, 2011		21,182

Note: The Indexation Reserve Account (IRA) is not to exceed 30% of the going-concern liability, or \$147,967,000.

8

## **Recommendations and Funding**

### **Active Members**

No improvements are recommended at this time.

### **Retired Members**

It is recommended that an increase of 1.78% be granted on pensions, effective January 1, 2011, to pensioners on benefit for more than one year and a proportionate increase of 0.1483% for each month of pension payment made in 2010 be granted for pensioners who retired during 2010 for which the total estimated cost is \$8,415,000 on the going-concern basis, or \$8,980,000 on the solvency basis. The pension increase schedule is provided below.

Number of Months of payment	Adjustment Percentage
12 or greater	1.7800%
11	1.6313%
10	1.4830%
9	1.3347%
8	1.1864%
7	1.0381%
6	0.8898%
5	0.7415%
4	0.5932%
3	0.4449%
2	0.2966%
1	0.1483%

## **Minimum and Maximum Funding Requirements**

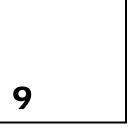
The minimum funding requirements after the above recommendation(s) are provided below.

Since all active members have accrued 35 years of pensionable service as at December 31, 2010, no Employer contributions are required for current service.

Since there is a going-concern funding excess at December 31, 2010, no Employer contributions are required to fund any unfunded liabilities.

Since there is a total solvency excess at December 31, 2010, no Employer contributions are required to fund any solvency deficiencies.

Therefore, the minimum Employer required contributions for 2011 are \$0 and the maximum permitted Employer contributions for 2011 are \$0.



## **Actuarial Opinion**

With respect to the Actuarial Valuation as at December 31, 2010 of the Metropolitan Toronto Pension Plan

FSCO and CRA Registration No. 0351577

It is hereby certified that, in our opinion, with respect to the Metropolitan Toronto Pension Plan:

- 1) since all active members had attained 35 years of pensionable service as at December 31, 2010, current service contributions for 2011, and thereafter, are nil;
- 2) on a going-concern basis, the Plan was in satisfactory financial condition as at December 31, 2010, having a funding excess of \$69,700,000;
- 3) on a solvency basis, the Plan has a solvency excess of \$30,162,000 as at December 31, 2010;
- 4) adoption of the recommendations in Section 8 of this Report would still leave the Plan in satisfactory financial condition as at January 1, 2011, with an estimated going- concern funding excess of \$61,285,000 and an estimated solvency excess of \$21,182,000;
- 5) as at December 31, 2010, the transfer ratio of the Plan is 1.00 and the Prior Year Credit Balance is \$ 0:
- 6) the Plan benefits are not guaranteed by the Pension Benefits Guarantee Fund and are therefore exempt from the annual filing of the PBGF assessment certificate and payment of any associated fees, in accordance with subsection 47(1)(p.14) of the Regulations under the *Pension Benefits Act (Ontario)*.

In our opinion,

- the data on which the valuation is based are sufficient and reliable for the purpose of the valuation.
- the assumptions are, in aggregate, appropriate for the purpose of the valuation.
- the methods employed in the valuation are appropriate for the purpose of the valuation.
- the actuarial liabilities would exceed the value of the assets if the Plan were to be wound up on the valuation date.

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

Frande	Frank Deherper
Anil Narale	Frank Dekeyser
Fellow of the Society of Actuaries	Associate of the Society of Actuaries
Fellow of the Canadian Institute of Actuaries	
	a a
March 17, 2011	March 17, 2011
Date	Date

Appendix A

## **By-law Provisions**

The following is a summary of the main provisions of the Plan, contained in By-law no. 15-92, which are relevant to the actuarial valuation. For complete details reference should be made to the formal plan document.

Effective Date: January 1, 1954.

**Membership:** Employees of the Employer and predecessor employers who

were hired before July 1, 1968.

Normal Retirement: Regular Members – age 65; and

Firefighters – age 60

Early Retirement: Unreduced pensions when age plus service total 85 (90 prior to

January 1, 1987) or more. Firefighters also have a "30 and out" early retirement clause. The early retirement penalty is 4% per year. However, for a 5-year period beginning July 1, 1998, the rule of 85 was replaced by 80 and the early retirement penalty

was reduced to 2.5% per year.

**Disability Retirement:** Permitted, with full accrued pensions,

(a) after 10 years service, upon total and permanent disability;

or

(b) after 20 years service, upon inability of performing current

iob.

#### **Member Contributions:**

5½% of annual pensionable earnings up to the Canada Pension Plan Y.M.P.E., and 7% of higher annual earnings until Credited Service equals or exceeds 35 years.

Firefighters must contribute an additional 1% of pensionable earnings.

However, for a six-month period beginning July 1, 1998, member contributions were reduced by 2%. Member contributions were entirely eliminated for the years 1999 to 2004. Since all active Members had completed 35 years of pensionable service as at December 31, 2004, there are no further contribution requirements after this date.

A refund of contributions previously made by members after completion of 35 years of credited service was made in 2000.

#### **Employer Contributions:**

Same as Member contributions.

## Normal Retirement Pension:

2% of employee's highest consecutive 5-year average earnings, multiplied by his number of years of service up to a maximum of 35 years, less (after age 65 or total disability) 0.7% of final 3 year average Y.M.P.E., multiplied by number of years of service after 1.1.66, up to a maximum of 35 years.

For years of service after 1991, the Canada Revenue Agency limit on pensions per year of service applies.

## Minimum Pension at Normal Retirement:

#### Greater of:

- Annual pension of \$450 multiplied by credited service (to a maximum of 30 years), effective from January, 2008. The prior minimum was \$300, effective from June, 1992; and
- 1.33% of final 5-year average earnings times credited service (up to 35 years)

### **Spousal Benefits:**

66.67% of the deceased member's normal pension.

#### **Orphans' Pensions:**

If there is no Spouse, 66.67% of the deceased member's normal pension until youngest orphan reaches 21. If there is a Spouse, an amount per child under age 21 where the total paid to Spouse AND Orphans is not to exceed 100% of the deceased member's normal pension.

## Other Pre-Retirement Death Benefits:

Return of deceased member's pre-1987 contributions plus interest, plus the commuted value of the deceased member's post-1986 accrued pension, in lieu of the spouse pension.

Minimum Death Benefit: Return of deceased member's contributions plus interest, or

pension payable for 60 months certain.

Withdrawal Benefits: Vested pension, or return of terminated member's pre-1987

contributions plus interest plus the commuted value of the

member's post-1986 accrued pension.

**Employer Cost-Sharing:** Upon termination, death or retirement, the member or his

beneficiary is entitled to receive the excess, if any, of the member's contributions (pre-87 & post-86) plus interest over

50% of the commuted value of the accrued pension.

### Notes:

(1) All pensions are subject to the maximum limitation imposed by the *Municipal Act* and the *Income Tax Act*.

(2) The Fund is subject to the provisions of the *Pension Benefits Act (Ontario)*.

Appendix B

## **Membership Data**

Data as to the membership of the Plan were obtained from the Employer for purposes of this actuarial valuation. These data reflect membership changes up to the end of February (approximately) of the year following the valuation date.

Tests were carried out as to the validity of the data by comparison with the data obtained in the previous valuation, by reconciliation of the membership movement during the intervaluation period and by performing various data checks to ensure that salaries, pension amounts, dates of birth, and so on are reasonable. The results of these tests were satisfactory.

## **Membership Reconciliation**

During 2010, total membership has decreased from 2,878 to 2,765 members. A reconciliation of the membership data since the previous valuation is provided below.

	Active Members	Suspended & Disabled Members	Pensioners	Surviving Spouses	Vested Deferred Pensioners
As at 31.12.2009	4	3	1,830	1,037	4
Pension Splits					
Exits By:					
Retirement		(1)	1		
Death - no spouse			(44)	(69)	
Death - with spouse			(63)	63	
Disabled					
As at 31.12.2010	4	2	1,724	1,031	4

## **Membership Summary**

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

### **Membership Data**

	31.12.2010	31.12.2009
Active Members		
<ul><li>Number</li></ul>	4	4
<ul> <li>Average years of pensionable service</li> </ul>	35.0	35.0
<ul> <li>Average age in years</li> </ul>	64.5	63.5
<ul> <li>Average earnings in the year</li> </ul>	\$77,486	\$72,185
Disabled & Suspended Members		
<ul><li>Number</li></ul>	2	3
<ul> <li>Average years of pensionable service</li> </ul>	35.0	35.0
<ul> <li>Average age in years</li> </ul>	66.7	65.1
<ul> <li>Average annual accrued pension</li> </ul>	\$6,812	\$4,653
Deferred Pensioners		
<ul><li>Number</li></ul>	4	4
<ul> <li>Total annual pension</li> </ul>	\$12,924	\$12,864
<ul> <li>Average annual pension</li> </ul>	\$3,231	\$3,216
<ul> <li>Average age in years</li> </ul>	76.2	75.2
Pensioners		
<ul><li>Number</li></ul>	1,724	1,830
<ul> <li>Total annual lifetime pension</li> </ul>	\$39,851,033	\$41,765,958
<ul> <li>Total annual bridge pension</li> </ul>	\$702,962	\$1,071,244
<ul> <li>Average total annual pension</li> </ul>	\$23,523	\$23,408
<ul> <li>Average age in years</li> </ul>	78.6	77.9
Spousal Pensioners		
1) Number	1,031	1,037
2) Total annual lifetime pension	\$13,653,297	\$13,536,012
3) Total annual bridge pension	\$132,737	\$144,360
4) Average total annual pension	\$13,371	\$13,192
5) Average age in years	80.8	80.4

Note that the pension amounts above are net of Government Annuity pensions credited to certain members under predecessor pension plans.

### **Active Members**

There are currently 6 active members consisting of 4 regular members and no firefighters. The average age of these members is 64.5 years.

The following table provides a further breakdown:

Age Group	No.	Average Pensionable Service	Average Earnings	Average Accumulated Contributions
60 64	0	25.0	<b>#00.700</b>	<b>\$202.750</b>
60 – 64	2	35.0	\$92,788	\$202,759
65+	2	35.0	62,184	143,864
Total	4	35.0	\$77,486	\$173,312
Males	1	35.0	\$125,500	\$249,592
Females	3	35.0	\$52,220	\$147,885

## **Disabled & Suspended Members**

There is currently 1 disabled members (regular member) accruing service under the Plan and 1 member (firefighter) whose benefits are suspended. The disabled member is 63.2 years of age and the suspended member is 70.2 years of age.

The following table provides a further breakdown:

Age Group	No.	Average Annual Deferred Pension
60 – 64	1	\$13,060
65 & over	1	564
Total	2	\$6,812
Males	2	\$6,812
Females	0	\$0

## **Pensioners and Spouses**

There are currently 1,724 pensioners having an average age of 78.6 years, receiving an average annual pension of \$23,523 and there are 1,031 surviving spouses having an average age of 80.8 years, receiving an average annual pension of \$13,371. The following table provides a further breakdown.

	PENSIONERS		PENSIONERS		SURV	URVIVING SPOUSES	
Age Group	No.	Average Annual Pension	No.	Average Annual Pension			
Under 50			1	\$1,926			
50 – 54			2	28,304			
55 – 59			10	14,489			
60 – 64	52	\$41,453	28	17,072			
65 – 69	194	24,375	64	13,634			
70 – 74	336	26,912	132	14,702			
75 – 79	412	24,205	199	14,190			
80 – 84	366	21,106	247	13,241			
85 – 89	238	20,466	224	13,294			
90 – 94	102	17,467	107	10,370			
95 & over	24	11,560	17	6,437			
Total	1,724	\$23,523	1,031	\$13,371			
Males	1,375	\$25,577	36	\$7,950			
Females	349	\$15,430	995	\$13,568			

### **Deferred Vested Pensioners**

There are currently 4 members, who are former employees, having an average age of 76.2 years, with an average annual deferred pension of \$3,216. The following table provides a further breakdown.

Age Group	No.	Average Deferred Pension
60 – 64	1	\$288
65 & over	3	4,212
Total	4	\$3,231
Males	2	\$1,248
Females	2	\$5,214

## **Plan Participants Split by Employer**

The number of Plan participants at December 31, 2010 are split by Participating Employer below.

ER					Participating
Code	Pensioners	Survivors	Other	Total	Employer Name
1	709	437	6	1,152	Metro Toronto
4	1	1	-	2	Metro Planning Dept
6	3	2	-	5	Metro Toronto Zoo
9	4	3	-	7	Riverdale Hospital
16	-	2	-	2	City of Toronto (Swansea)
18	ı	1	-	1	Toronto (Forest Hill) Fire Dept
21	113	64	-	177	North York (Inside Employees)
22	138	135	1	274	North York (Outside Employees)
23	25	11	-	36	North York PLB (Union)
24	9	1	-	10	North York PLB (Non-Union)
26	196	78	-	274	North York Firefighters
31	158	129	-	287	Scarborough
32	5	2	-	7	Scarborough PLB
33	118	47	1	166	Scarborough Firefighters
42	ı	-	-	-	Etobicoke (New Toronto PLB)
51	2	3	-	5	York (Weston)
52	5	2	-	7	York (Weston) Firefighters
61	44	45	-	89	East York
62	70	19	1	89	East York Firefighters
63	3	2	1	5	East York Board of Education
64	2	1	-	3	East York (Leaside)
71	12	6	-	18	Toronto & York Roads Commission
80	107	40	2	149	Police (Civilians)
Total	1,724	1,031	10	2,765	



# Methods and Assumptions - Going-Concern

### Valuation of Assets

For this valuation, we have used an adjusted market-value method to determine the smoothed value of assets. This method is described in Section 3.

### **Valuation of Going Concern Funding Target**

Over time, the real cost to the Employer 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 present value of benefit cash flows expected to be paid in respect of service accrued prior to the valuation date, based on projected final average earnings. This is referred to as the funding target. For each individual plan member, accumulated contributions with interest are established as a minimum actuarial liability.

The funding excess or funding shortfall, as the case may be, is the difference between the smoothed value of assets and the funding target. A funding excess on a market value basis indicates that the current value of assets and expected investment earnings are expected to be sufficient to meet the cash flows in respect of benefits accrued to the valuation date as well as expected expenses – assuming the Plan is maintained indefinitely. A funding shortfall on a market value basis indicates the opposite – that the current market value of the assets is not expected to meet the Plan's cash flow requirements.

As required under the Act, a funding shortfall must be amortized over no more than 15 years through special payments.

The Indexation Reserve Account which is equal to the funding excess, subject to a maximum of 30% of the actuarial liability, is to be used primarily to provide ad hoc pension increases to Members in receipt of pension payments from the Pension Fund

The actuarial funding method used for the purposes of this valuation produces a reasonable matching of contributions with accruing benefits. Because benefits are recognized as they accrue, the actuarial funding method provides an effective funding target for a plan that is maintained indefinitely.

### **Current Service Cost**

The current service cost is the present value of projected benefits to be paid under the Plan with respect to service expected to accrue during the period until the next valuation.

Since all Plan members have accrued 35 years of pensionable service at the valuation date, there are no further benefit accruals and therefore no current service cost.

### **Actuarial Assumptions - Going Concern Basis**

The present value of future benefit payments 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. Emerging experience will result in gains or losses that will be revealed and considered in future actuarial valuations.

The table below shows the various assumptions used in the current valuation in comparison with those used in the previous valuation.

Assumption	Current valuation	Previous valuation
Discount rate:	5.50%	5.50%
Pensionable earnings increases:	3.50%	4.50%
ITA limit / YMPE increases:	3.50%	3.50%
Explicit expenses:	\$0	\$0
Inflation:	2.50%	2.50%
Post retirement pension increases:	0.00%	0.00%
Retirement rates:	100% at greater of age 61 and current age+1	100% at greater of age 61 and current age+1
Mortality rates:	100% of the rates of the 1994 Uninsured Pensioner Mortality Table	100% of the rates of the 1994 Uninsured Pensioner Mortality Table
Mortality improvements:	Fully generational using Scale AA	Fully generational using Scale AA
Eligible Survivor:	Based on actual data	Based on actual data
Allowance for Remarriage:	0.25% of pensioner liability	0.25% of pensioner liability

The assumptions are best-estimate with the exception that the discount rate may include a margin for adverse deviations, as shown below.

## **Rationale for Assumptions**

A rationale for each of the assumptions used in the current valuation is provided below.

#### **Discount Rate**

We have discounted the expected benefit payments using the expected investment return on the market value of the fund. Other bases for discounting the expected benefit payment cash flows may be appropriate, particularly for purposes other than those specifically identified in this valuation report.

The discount rate selected is 5.50% per annum. This rate is supported as follows:

- Estimated returns for each major asset class consistent with market conditions on the valuation date and the target asset mix specified in the Plan's investment policy. Based on Mercer's methodology, estimated returns range from a low of 5.66%, with a conservative equity premium, to a high of 6.36%, with an optimistic equity premium.
- Additional returns assumed to be achievable due to active equity management (net of related expenses). We have assumed no additional return due to active equity management.
- Implicit provision for expenses determined as the average rate of investment and administrative expenses paid from the fund over the last 3 years. On this basis, we have determined an implicit expense provision of 0.17%.
- No specific margin for adverse deviations has been mandated by the regulators or communicated to us by the Trustees.

The components of the selected discount rate are summarized as follows:

Assumed investment return: In the range 5.66% to 6.36%

Implicit expense provision: (0.17%)

Implicit margin for adverse

deviation: In the range of (0.00%) to (0.69%)

#### Inflation

The inflation assumption is based on market expectations of long-term inflation implied by the yields on nominal and real return bonds at the valuation date of 2.50%.

#### Post retirement pension increases

The assumption is based on the Plan formula and inflation assumption above.

### **Mortality rates**

There is strong evidence of continuing improvement in mortality since 1994 and it has become an industry standard to assume this trend continues into the future. We have used the AA projection scale to allow for improvements in mortality since 1994 and indefinitely in the future.

Based on the assumption used, the life expectancy of a member age 65 at the valuation date is 18.7 years for males and 21.3 years for females.

#### Eligible spouse

Actual status used for retirees.

- -The survivor benefit assumption is based on actual data provided and an allowance for remarriage of 0.25% of the pensioner liability.
- Subject to the entitlement of the prior spouse, if any, the waiting period specified in the Plan and the requirements under the *Pension Benefits Act (Ontario)*, a spouse acquired after retirement date may be entitled to receive the spousal pension. The Plan provides that the new spouse of a pensioner, whose former spouse at retirement has died or who was without spouse at retirement, is eligible for a survivor pension provided that the new spousal relationship, as defined in the Plan, has been in effect for a minimum of 5 years. In order to make allowance for the possible increase in future liabilities on remarriage of a pensioner, based on remarriage rates for older adults in Canada, we have loaded the pensioner liabilities by 0.25% as an allowance for remarriage.
- -It has been assumed that 100% of active members are married. Female souses are assumed to be 4 years younger than males.

#### Allowance for stepped pensions

Upon the death of a pensioner whose pension has been stepped at retirement, the Plan provides a pension to the spouse whereby the survivor percentage is applied to the post-65 pre-stepped pension rather than the post-65 pension in payment. A stepped pension is a pension that has been increased before age 65 and reduced after age 65 to produce a level pension in anticipation of the OAS pension commencing from age 65.

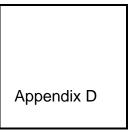
We have performed a calculation based on the membership data supplied to estimate the spousal pension.

#### Reserve for 50% Rule Refunds

It has been discovered that, in respect of members who retired since January 1, 1987, the 50% rule refund of excess contributions amount may not have been processed. We have reflected the estimated impact of the above by including an additional reserve of \$2,000,000 in the liabilities.

#### **Reserve for Surplus Distribution to Retirees**

We have valued a one-time payment of \$2,500 to each regular pensioner and surviving spouse and \$4,500 to each firefighter pensioner and surviving spouse. These figures approximate the annual contribution that would have been made to the Plan, were it not for the contribution holiday, by each active regular member and firefighter member, respectively. This payment was approved by the Trustees in 1999, but has yet to be approved by City Council.



## Methods and Assumptions

## Hypothetical Wind-up and Solvency

## **Hypothetical Windup Basis**

The Canadian Institute of Actuaries requires actuaries to report the financial position of a pension plan on the assumption that the plan is wound-up on the effective date of the valuation, with benefits determined on the assumption that the pension plan has neither a surplus nor a deficit. For the purposes of the hypothetical wind-up valuation, the Plan wind-up is assumed to occur in circumstances that maximize the actuarial liability.

To determine the actuarial liability on the hypothetical wind-up basis, we have valued those benefits that would have been paid had the Plan been wound up on the valuation date, including benefits that would be immediately payable, with all members fully vested in their accrued benefits. No benefits payable on plan wind-up were excluded from our calculations.

To determine the hypothetical wind-up position of the Plan, the assets are determined at market value and a provision has been made for estimated termination expenses payable from the Plan's assets in respect of actuarial and administration expenses that may reasonably be expected to be incurred in terminating the Plan and to be charged to the Plan. Actual fees incurred on an actual plan wind-up may differ materially from the estimates disclosed in this report.

### **Solvency Basis**

The value of assets used for determining the financial position of the Plan on the solvency basis includes the solvency assets plus a solvency asset adjustment.

The *solvency assets* are determined as the market value of investments held by the Plan plus any cash balances of the Plan and accrued or receivable income items.

The *solvency asset adjustment* is determined as the amount, positive or negative, by which the value of the solvency assets are adjusted as a result of applying an averaging method that stabilizes short-term fluctuations of the Plan assets.

The value of the liabilities used for determining the financial position of the Plan on the solvency basis includes the solvency liabilities plus a solvency liability adjustment.

To determine the *solvency liability*, we have valued those benefits that would have been paid had the Plan been wound up on the valuation date with all members vested in their accrued benefits.

The *solvency liability adjustment* is determined as the amount, positive or negative, by which the value of the solvency liabilities are adjusted as a result of using a solvency valuation interest rate that is the average of the market interest rates calculated over a period of 4 years (the same period used for the averaging method used to determine the solvency asset adjustment).

The difference between (1) the sum of the solvency assets and solvency asset adjustment and (2) the sum of the solvency liability and solvency liability adjustment is called the *solvency excess* or *solvency deficiency*, as the case may be.

Since virtually all members have qualified for a retirement pension, we have assumed that all benefits will be settled through the purchase of annuities and have used a valuation interest rate for solvency purposes which, when used with the 1994 Uninsured Pensioners mortality table with mortality projected to 2020 (U94P2020), provides an estimate of group annuity purchase rates for non-indexed pensions.

## **Assumptions**

Assumptions for determination of the hypothetical wind-up and solvency liability are as follows:

### **Actuarial Assumptions - Windup and Solvency Liability**

Mortality rates:	UP1994 table, with mortality projection to 2020
Interest rate for benefits to be settled through annuity purchase:	4.48% per year
Allowance for re-marriage:	Same assumption as in going-concern valuation
Post retirement cost-of-living increases	0.00%

Assumptions for determination of the solvency liability adjustment are as follows:

### **Actuarial Assumptions - Solvency Liability Adjustment**

Mortality rates:	UP1994 table, with mortality projection to 2020
Interest rate for benefits to be settled through annuity purchase:	4.625% per year
Allowance for re-marriage:	Same assumption as in going-concern valuation
Post retirement cost-of-living increases	0.00%

We have used an average of the annuity proxy rates as at December 31, 2007 (4.50% per year), December 31, 2008 (4.85% per year), December 31, 2009 (4.49% per year) and December 31, 2010 (4.48% per year) which produces a rate of 4.625% per year (rounded to the nearest 1/8%).

Other assumptions are as follows;

### **Other Assumptions**

Special payments:	Discounted at the average smoothed interest rate of 4.625% per year
Termination expenses:	\$ 417,000 (based on \$150 per pensioner/survivor and \$250 per other member)

We have not included a margin for adverse deviations in the solvency and hypothetical windup valuations.

Appendix E

## **Projections and Sensitivity Illustrations**

## **Wind-up Incremental Cost**

The wind-up incremental cost is an estimate of the present value of the projected change in the hypothetical wind-up liabilities from the valuation date until the next scheduled valuation date (with no changes in actuarial assumptions), adjusted for the benefit payments expected to be made in that period.

The hypothetical wind-up incremental cost determined in this valuation is as follows:

	31.12.2010	31.12.2010
Number of years covered by report	1 year	3 years
Total hypothetical wind-up liabilities at the valuation date * (A)	\$531,223,000	\$531,223,000
Present value of expected benefit payments until the next required valuation (B)	\$53,447,000	\$148,424,000
Present value of projected hypothetical wind-up liability at the next required valuation (C)	\$511,834,000	\$474,002,000
Hypothetical wind-up incremental cost (B + C - A)	\$34,058,000	\$91,203,000

<sup>\*</sup> Includes the liability for the 01.01.2011 cost of living adjustment

# Discount Rate and Asset Return Rate Sensitivity Projected Solvency Excess/(Deficit) at December 31, 2011

The current solvency excess/(deficit) is approximately \$21.2 million at January 1, 2011, based on a 4-year smoothing of windup discount rates, asset returns as described in this report and including pensioner increases recommended at January 1, 2011.

The impact on the projected solvency position at December 31, 2011 of changes in the windup discount rate and asset returns during 2011 is provided in the following table.

Projected Solvency Excess/(Deficit) at December 31, 2011 (\$million)

	Wind-up Discount rates		
Asset Returns	4.00%	4.50%	5.00%
-5.50%	(24)	(4)	15
0.00%	(16)	3	22
5.50%	(9)	10	30
11.00%	(2)	18	37

Note that for purposes of our projections we have assumed no smoothing of discount rates in determining the solvency liabilities at December 31, 2011, in accordance with pending changes to the PBA and Regulations to remove solvency liability smoothing.

## **Projected Employer Contributions for 2012**

The current minimum required Employer contributions for 2011 are \$0.

The impact on the projected Employer contributions for 2012 of changes in the windup discount rate and asset returns, based on a projected valuation at December 31, 2011, is provided in the following table.

**Projected Employer Contributions for 2012 (\$million)** 

	Wind-up Discount rates		
Asset Returns	4.00%	4.50%	5.00%
-5.50%	5.2	1.0	0.0
0.00%	3.6	0.0	0.0
5.50%	2.0	0.0	0.0
11.00%	0.3	0.0	0.0

Appendix F

## **Employer Certification**

With respect to the report on the actuarial valuation of the *Metropolitan Toronto Pension Plan*, as at December 31, 2010, 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 the date of the valuation, were provided to the actuary;
- the membership and financial data provided to the actuary for the purposes of this valuation are accurate and complete;
- the membership data provided to the actuary include a complete and accurate description of every person who is entitled to benefits under the terms of the Plan for service up to the date of the valuation, and
- all events subsequent to December 31, 2010 that may have an impact on the results of the valuation have been communicated to the actuary.

Date

Signed

CRINE CHIOVITI

Name

DERCTOR- PENSION, PATROL & EMPLOYEE

Title

Title

BENEFITS

Jul 11

**MERCER** 

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