OTPP Actuarial Information (excludes market value asset).pdf

ONTARIO TEACHERS'
PENSION PLAN – RÉGIME DE RETRAITE DES ENSEIGNANTES ET DES ENSEIGNANTS

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January 26, 2016

Mark Rozic, Manager (Acting)
External Reporting Branch
Office of the Provincial Controller Division
Treasury Board Secretariat
2nd Floor, Office 260, Frost Building South
7 Queen's Park Crescent
Toronto, Ontario M7A 1Y7

Dear Mr. Rozic:

I am responding to a letter dated December 11, 2015 from Ms. Leah Myers that requested actuarial and financial information about the Ontario Teachers' Pension Plan (registered pension plan - RPP) and the Retirement Compensation Arrangement (RCA) at December 31, 2015.

Items 1, 3 (except the benefit payment breakdown), 6, 10 and 11 are included in the enclosed letter from Mercer (Canada) Limited.

Item 2 - Market Value of Pension Fund Assets ($ millions)

Please note that we no longer use an asset smoothing method for our financial statements. As such, there is no separate "actuarial" value of assets.

Market value of assets at December 31, 2015	Not yet available

Item – 3(a) RPP Benefits Paid ($ millions)

Retirement Pensions	$ 5,056
Survivor Pensions	273
Disability Pensions	27
Lump Sum Death Benefits	71
Refunds	1
Commuted Value Transfers	74
Transfers to Other Plans	8
Family Law Value Transfers	27
Total	$ 5,537

Item – 3(b) RCA Benefits Paid

The RCA pension payments made in 2015 were $7.40 million and the RCA lump sum payments in 2015 were $4.87 million.

Item - 4(a) RPP Contributions ($ millions)

Members		
Current Service	$	1,580
Optional Credit		35
Total	$	1,615
Province of Ontario		
Current Service	$	1,568
Interest		37
Optional Credit		32
Total	$	1,637
Other Employers	$	33
Transfers from Other Plans		14
Total	$	47
Grand Total	$	3,299

Item 4(b) - RCA Contributions ($ millions)

Members	$	5.6
Province of Ontario		3.3
Other Employers		2.4
Total	$	11.3

Item 4(c) - Payments re: Foregone Inflation Adjustments

The foregone inflation amounts for 2014 payments which are part of the government billing for payment in January 2016 are as follows:

		Total		Province of Ontario
RPP	$	1,130,253	$	1,106,279
RCA		12,205		11,946
Total	$	1,142,458	$	1,118,225

Item 5 - Economic Assumptions	RPP	RCA
Discount Rate	3.25%	1.625%
Salary Escalation Rate	2.50%	2.50%
Inflation Rate	1.50%	1.50%
Real Rate	1.70%	0.125%

Item 7 - Net Gain and Loss on Actuarial Value of Assets

Not applicable. Please note that we no longer use an asset smoothing method for our financial statements. As such, there is no separate "actuarial" value of assets.

Item 8 - Schedule of Contributions and Interest Receivable ($ millions)

Contributions	$	3,157
Interest		51
Total	$	3,208

Item 9 - Number of Pensioners and Active Members as at December 31, 2015

Pensioners	133,000
Active Members	183,000

Item 12 – Financial Statements

Not yet available.

We will provide any outstanding information as soon as it is available. In addition, we will send an updated version of this letter if any of the information contained herein is subsequently changed.

Please do not hesitate to call if you have any questions.

Sincerely,

Mary C

Mary Cover, FSA, FCIA
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cc: Alex Killoch – Ministry of Finance

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26 January 2016

Ms. Mary Cover
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Ontario Teachers' Pension Plan Board
5650 Yonge Street
Toronto, ON M2M 4H5

Private & Confidential

Subject: December 31, 2015 Valuation Results Using the Province's Assumptions

Dear Mary,

As requested, we have provided you with information for the Ontario Teachers' Pension Plan (OTPP) on points 1, 3, 6, 10 and 11 in the December 11, 2015 letter from the Ministry of Finance to Mr. Ron Mock. As instructed in the Ministry letter, the following sets of assumptions have been used in calculating the liabilities as at December 31, 2015:

	Basis 1	**Basis 2**	**Basis 3**	**Basis 4**
Valuation discount rate	6.50%	6.25%	6.25%	6.00%
Inflation rate	2.25%	2.25%	2.00%	2.00%
Real valuation discount rate	4.25%	4.00%	4.25%	4.00%
Salary escalation rate	2.25% for the years 2016 to 2019, 3.25% thereafter	2.25% for the years 2016 to 2019, 3.25% thereafter	2.00% for the years 2016 to 2019, 3.00% thereafter	2.00% for the years 2016 to 2019, 3.00% thereafter

For each basis, all the other assumptions and the valuation methods are those used by the Ontario Teachers' Pension Plan Board in the December 31, 2015 valuation for financial statement purposes. This includes proposed demographic assumption changes as well as negotiated salary increases providing a 1% lump sum increase at September 1, 2015, a 1% increase at September 1, 2016 and a 0.5% increase half-way through the school year commencing September 1, 2016. The demographic assumptions were updated to reflect recent experience of Plan members related to retirement, termination of plan membership, reinstatement of inactive members and increases in salaries related to experience. The changes to the demographic assumptions are described in the presentation material from our meeting with the Technical Committee on January 13, 2016. The remaining demographic assumptions are provided in our Report on the Actuarial Valuation for Financial Statement Purposes as at December 31, 2014. We expect that our report on the December 31, 2015 actuarial valuation will be finalized in March, 2016.

For the sake of clarity, we note that the assumed increases in the YMPE and maximum pension limits under the Income Tax Act are the same rates as the long-term salary growth rates noted for each of the four bases.

The Province has requested that we prepare the results assuming that inflation protection for post 2009 service will be provided at 100% and at 50% of the assumed inflation rate. In this letter we have included results using both of these alternative inflation protection levels. We note that at the time of preparing this letter, the Plan provides for 70% of conditional inflation protection for post 2009 service.

At the Province's request, the liabilities have been calculated using the "projected benefit method, pro-rated on services". In the calculations presented in this letter, we have used the projected benefit method, pro-rated on service with three attribution periods to reflect the different indexing provisions for service accrued to December 31, 2009, service accrued from January 1, 2010 to December 31, 2013 and service accrued from January 1, 2014. However, we note that the same level of indexing was applied to all service from January 1, 2010 to December 31, 2015 for purposes of calculating the liabilities provided in this letter (whether the results are based on 100% or 50% conditional indexing).

We have included information regarding the experience gain/loss incurred relative to salary growth during the year as well as the impact on the December 31, 2015 liabilities due to changing the rate of inflation and salary growth assumption in Bases 3 and 4 in our tables relative to the assumptions from Bases 1 and 2. We note that since the assumed increases in salaries determined by the Province are set equal to the assumed inflation rate plus 1%, we have not separately identified the changes in salary only without the corresponding changes in inflation.

The results as at December 31, 2015 are summarized in the following tables.

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Results using 100% conditional indexing for post 2009 service (results in $ millions)

	Basis 1	Basis 2	Basis 3	Basis 4
Valuation discount rate:	**6.50%**	**6.25%**	**6.25%**	**6.00%**
Inflation rate:	**2.25%**	**2.25%**	**2.00%**	**2.00%**
Salary escalation rate:	**2.25% for the years 2016 to 2019, 3.25% thereafter**	**2.25% for the years 2016 to 2019, 3.25% thereafter**	**2.00% for the years 2016 to 2019, 3.00% thereafter**	**2.00% for the years 2016 to 2019, 3.00% thereafter**
1. Actuarial present value (APV) of accrued pension benefits at December 31, 2014 using **Last Year's Basis 4**	$113,801	$113,801	$113,801	$113,801
2. Increase in the APV of accrued pension benefits				
Interest on the APV of accrued pension benefits	$7,310	$7,310	$7,310	$7,310
Current Service Cost (mid-year)	2,868	2,868	2,868	2,868
Contributions for optional credit	34	34	34	34
Repayment of refunds	0	0	0	0
Transfers from other plans	14	14	14	14
Change in valuation assumptions and methods:				
Change in demographic assumptions	350	350	350	350
Change in interest rate from Basis 1	0	4,142	4,142	8,309
	$10,576	$14,718	$14,718	$18,885
3. Decrease in the APV of accrued pension benefits				
Pensions paid	$5,356	$5,356	$5,356	$5,356
Refund of contributions	0	0	0	0
Lump sum payments and transfers	180	180	180	180
Salary experience gains	1,028	1,028	1,028	1,028
All other experience gains	552	552	552	552
Negotiated Salary Increases	1,161	1,161	1,161	1,161
Change in inflation rate and salary growth rates from Basis 1	0	0	3,829	3,829
Change in other actuarial assumptions and methods	46[1]	46	46	46
	$8,323	$8,323	$12,152	$12,152
4. Net increase in the APV of accrued pension benefits	$2,253	$6,395	$2,566	$6,733
5. APV of accrued pension benefits at December 31, 2015	$116,054	$120,196	$116,367	$120,534
6. Annual current service cost at January 1, 2016 (BOY)	$2,880	$3,058	$2,899	$3,079

[1] Change to commuted value assumption to value benefits payable upon termination

Results using 50% conditional indexing for post 2009 service (results in $ millions)

	Basis 1	Basis 2	Basis 3	Basis 4
Valuation discount rate:	**6.50%**	**6.25%**	**6.25%**	**6.00%**
Inflation rate:	**2.25%**	**2.25%**	**2.00%**	**2.00%**
Salary escalation rate:	**2.25% for the years 2016 to 2019, 3.25% thereafter**	**2.25% for the years 2016 to 2019, 3.25% thereafter**	**2.00% for the years 2016 to 2019, 3.00% thereafter**	**2.00% for the years 2016 to 2019, 3.00% thereafter**
1. Actuarial present value (APV) of accrued pension benefits at December 31, 2014 using **Last Year's Basis 4**	$112,004	$112,004	$112,004	$112,004
2. Increase in the APV of accrued pension benefits				
Interest on the APV of accrued pension benefits	$7,182	$7,182	$7,182	$7,182
Current Service Cost (mid-year)	2,508	2,508	2,508	2,508
Contributions for optional credit	34	34	34	34
Repayment of refunds	0	0	0	0
Transfers from other plans	14	14	14	14
Change in valuation assumptions and methods:				
Change in demographic assumptions	322	322	322	322
Change in interest rate from Basis 1	0	3,975	3,975	7,990
	$10,060	$14,035	$14,035	$18,050
3. Decrease in the APV of accrued pension benefits				
Pensions paid	$5,356	$5,356	$5,356	$5,356
Refund of contributions	0	0	0	0
Lump sum payments and transfers	180	180	180	180
Salary experience gains	979	979	979	979
All other experience gains	545	545	545	545
Negotiated Salary Increases	1,104	1,104	1,104	1,104
Change in inflation rate and salary growth rates from Basis 1	0	0	3,461	3,461
Change in other actuarial assumptions and methods	36[2]	36	36	36
	$8,200	$8,200	$11,661	$11,661
4. Net increase in the APV of accrued pension benefits	$1,860	$5,835	$2,374	$6,389
5. APV of accrued pension benefits at December 31, 2015	$113,864	$117,839	$114,378	$118,393
6. Annual current service cost at January 1, 2016 (BOY)	$2,523	$2,671	$2,574	$2,727

[2] Change to commuted value assumption to value benefits payable upon termination

We have the following comments on the results:

- Our valuation of the actuarial present value of the accrued pension benefits as at December 31, 2015 and the 2016 current service costs are based on membership data as at August 31, 2015. The actuarial present value of accrued pension benefits as at August 31, 2015 is then extrapolated forward to December 31, 2015, reflecting expected cashflows and the actual inflation adjustment as at January 1, 2016 of 1.30% for pre-2010 service and 0.91% for post-2009 service. The 2015 mid-year current service is based on membership data as at August 31, 2014. A summary of the membership data as at August 31, 2015 was included with our email of October 23rd, 2015 to Glen Tunney.

- We understand that the Province adopted Last Year's Basis 4 in establishing the actuarial present value of accrued pension benefits as at December 31, 2014. This is the same as Basis 1 for the current year.

- We have assumed that any change in the Province's assumptions (i.e. nominal and real discount rates, inflation rate, and salary escalation rate would occur at December 31, 2015).

The Expected Average Remaining Service Lifetime (EARSL) of active employees at August 31, 2015 and estimated for December 31, 2015, is 15.3 years. The increase in the EARSL from the prior year is primarily attributable to the change in assumed termination and retirement rates.

The net experience gain incurred on the plan liability since the prior year was primarily attributable to the lower than expected level of inflation for the January 1, 2016 indexing. Other experience gains and losses were relatively small.

The figures presented in this letter exclude the Ontario Teachers' Retirement Compensation Arrangement ("OTRCA"), which provides benefits to members that are in excess of those permitted to be provided from the registered pension plan. The Province has requested information on the OTRCA based on what will be reported in the OTRCA's 2015 financial statements, and does not require calculations on any other basis.

While the actuarial demographic assumptions used to estimate liabilities for the Plan represent the Ontario Teachers' Pension Plan Board's best estimate of future events and the economic assumptions are as provided by the Province, and while in our opinion the assumptions used for the valuation are appropriate provided the Province selected the economic assumptions in accordance with the Chartered Professional Accountants of Canada Public Sector Accounting Board Handbook ("PSAB Handbook"), the Plan's future experience will inevitably differ, perhaps significantly, from the actuarial assumptions. Any differences between the actuarial assumptions and future experience will emerge as gains or losses in future valuations, and will affect the financial position of the Plan at that time.

We have tested the data for reasonableness and consistency, and in my opinion, the membership data on which the valuation is based are sufficient and reliable for the purpose of the valuation. In my opinion, the calculations have been made in accordance with my understanding of the reporting requirements under the PSAB Handbook and this report has been prepared, and, my opinions given, in accordance with accepted actuarial practice in Canada.

If you have any questions, please do not hesitate to call.

Sincerely,

Lise Houle

Copy:
Scott Clausen, Mercer
Jason Lipping, Mercer

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