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UNIVERSITY OF WINDSOR RETIREMENT PLAN FOR FACULTY AND CERTAIN EMPLOYEES

REPORT ON THE ACTUARIAL VALUATION FOR FUNDING PURPOSES AS AT JULY 1, 2014

MARCH 2015

Financial Services Commission of Ontario Registration Number: 0366849
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MARSH & McLENNAN COMPANIES

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To prepare the results in this report, actuarial assumptions are used to model a single scenario from a range of possibilities for each valuation basis. The results based on 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 or material. Different assumptions or scenarios within the range of possibilities may also be reasonable, and results based on those assumptions would be different. Furthermore, actuarial assumptions may 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.

The valuation results shown in this report also illustrate the sensitivity to one of the key actuarial assumptions, the discount rate. We note that the results presented herein rely on many assumptions, all of which are subject to uncertainty, with a broad range of possible outcomes, and the results are sensitive to all the assumptions used in the valuation.

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 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.

Decisions about benefit changes, granting new benefits, investment policy, funding policy, benefit security, and/or benefit-related issues should not be made solely on the basis of this valuation, but only after careful consideration of alternative economic, financial, demographic, and societal factors, including financial scenarios that assume future sustained investment losses.

Funding calculations reflect our understanding of the requirements of *Pension Benefits Act (Ontario)*, the Income Tax Act, and related regulations that are effective as of the valuation date. Mercer is not a law firm, and the analysis presented in this report is not intended to be a legal opinion. You should consider securing the advice of legal counsel with respect to any legal matters related to this report.

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Summary of Results

	01.07.2014	01.07.2011
Going Concern Financial Status		
Market value of assets	$424,617,900	$328,990,200
Going concern funding target	$461,014,200	$374,394,500
Funding excess (shortfall)	($36,396,300)	($45,404,300)
Hypothetical Wind-up Financial Position		
Wind-up assets	$424,167,900	$328,640,200
Wind-up liability	$515,944,600	$413,715,500
Wind-up excess (shortfall)	($91,776,700)	($85,075,300)
Solvency Financial Position		
Solvency assets	$424,167,900	$328,640,200
Solvency liability	$380,624,000	$320,001,600
Solvency excess (deficiency)	$43,543,900	$8,638,600
Transfer ratio	0.82	0.79
Ratio of solvency assets to solvency liabilities	1.12	1.03
Funding Requirements in the Year Following the Valuation [1]		
Total current service cost	$14,085,700	$13,191,600
Estimated members' required contributions	($5,977,000)	($5,147,200)
Estimated University's current service cost	$8,108,700	$8,044,400
University's current service cost as a percentage of members' pensionable earnings	10.68%	10.50%
Minimum special payments	$4,635,000	$2,646,800
Minimum special payments starting July 1, 2012	N/A	$5,385,300
Estimated minimum University contribution	$12,743,700	$10,691,200
Estimated maximum eligible University contribution	$99,885,400	$93,119,700
Next required valuation date	July 1, 2017	July 1, 2014

[1] Provided for reference purposes only. Contributions must be remitted to the Plan in accordance with the Minimum Funding Requirements and Maximum Eligible Contributions sections of this report.

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Introduction

To the University of Windsor

At the request of the University of Windsor (the "University"), we have conducted an actuarial valuation of the University of Windsor Retirement Plan for Faculty and Certain Employees (the "Plan"), sponsored by the University of Windsor, as at the valuation date, July 1, 2014. We are pleased to present the results of the valuation.

Purpose

The purpose of this valuation is to determine:

- The funded status of the Plan as at July 1, 2014 on going concern, hypothetical wind-up, and solvency bases;
- The minimum required funding contributions from July 1, 2014, in accordance with the *Pension Benefits Act, Ontario* (the "Act"); and
- The maximum permissible funding contributions from July 1, 2014, in accordance with the *Income Tax Act.*

The information contained in this report was prepared for the internal use of the University, and for filing with the Financial Services Commission of Ontario and with the Canada Revenue Agency, in connection with our actuarial valuation of the Plan. This report will be filed with the Financial Services Commission of Ontario and with the Canada Revenue Agency. 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 July 1, 2017, or as at the date of an earlier amendment to the Plan.

Terms of Engagement

In accordance with our terms of engagement with the University, 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.
- As instructed by the University, we have reflected a margin for adverse deviations in our going concern valuation by reducing the going concern discount rate by 0.25% per year.

- We have reflected the University's 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.

  – Certain excludable benefits were excluded from the solvency liabilities.

  – The solvency financial position was determined on a market value basis.

  – No funding relief measures have been applied.

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

Events since the Last Valuation at July 1, 2011

Pension Plan

There have been no special events since the last valuation date.

This valuation reflects the provisions of the Plan as at July 1, 2014. Since the date of the last valuation, there have been changes to the Plan provisions:

- Effective July 1, 2016, member contribution rates to the Money Purchase component will increase from 8% of earnings to 9% of earnings.

- Effective July 1, 2016, Members who remain actively employed beyond their Normal Retirement Date shall continue to participate in the Plan, and will no longer have the option to cease contributing to the Plan. Such continuation of participation includes continued contributions to the Money Purchase Component and continued accrual of credited service under the Minimum Guarantee plan formula.

There have been no other changes to the Plan that impact on the results of this valuation. The Plan provisions are summarised in Appendix F.

Assumptions

We have used the same going concern valuation assumptions and methods as were used for the previous valuation, except for the following:

	Current valuation	**Previous valuation**
Discount rate:	5.90%	5.95%
ITA limit / YMPE increases:	3.00%	3.50%
Pensionable earnings increases:	4.00% for 3 years and 5.00% thereafter	5.00%
Post retirement money purchase pension increases:	(0.10%)	(0.05%)
Interest on DC Balance:	5.90%	5.95%
Retirement rates:	Revised age-related table	Age-related table
Mortality rates:	95% of the rates of the 2014 Public Sector Canadian Pensioners Mortality Table (CPM2014Publ)	100% of the rates of the 1994 Uninsured Pensioners Mortality Table
Mortality improvements:	Fully generational using CPM Improvement Scale B (CPM-B)	Fully generational using Scale AA

The hypothetical wind-up and solvency assumptions have been updated to reflect market conditions at the valuation date.

A summary of the going concern methods and assumptions is provided in Appendix C. A summary of the hypothetical wind-up and solvency methods and assumptions is provided in Appendix D.

Regulatory Environment and Actuarial Standards

There have been a number of changes to the *Pension Benefits Act* (Ontario) and regulations which impact the funding of the Plan.

Effective July 1, 2012, the *Pension Benefits Act (Ontario)* and the Regulations to the Act were amended to require plans to provide immediate vesting to all Ontario plan members and to provide grow-in benefits to certain Ontario members whose employment is terminated at the initiation of their employer. The Plan will be amended to reflect these changes. These legislated minimum benefit improvements have been reflected in the valuation and resulted in no increase in the going concern funding target and current service cost.

The Regulations to the Pension Benefits Act were amended in November 2012 to permit new solvency and going concern special payments to be amortized beginning up to one year after the valuation date.

The Regulations to the *Pension Benefits Act* were amended in May 2011 to include temporary solvency funding relief measures for certain pension plans in the broader public sector, originally announced by the Ontario Minister of Finance in the 2010 budget. The University did not apply for approval to use these solvency funding relief measures.

The Canadian Institute of Actuaries (CIA) issued its final report on Canadian Pensioners Mortality in February 2014. The CIA report contained updated base mortality tables by sector, as well as scales for projecting future improvements in mortality (CPM-B).

The going concern valuation results presented in this report reflect the public sector mortality table (CPM-RPP2014Publ) and the CPM-B mortality improvement scale contained in the February 2014 CIA mortality study report.

On December 4, 2014, the Actuarial Standards Board issued a memorandum on the promulgation of the mortality table referenced in the Canadian Institute of Actuaries Standards of Practice for Pension Plans in respect of the computation of pension commuted values ("CIA CV Standard") for calculations from August 1, 2015. The proposed change affects the mortality assumption used to value the solvency and wind-up liabilities for benefits assumed to be settled through a lump sum transfer. The financial impact of the proposed change in the CIA CV Standard has not been reflected in this actuarial valuation on a solvency and hypothetical wind-up basis.

Subsequent Events

After checking with representatives of the University, 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. Our valuation reflects the financial position of the Plan as of the valuation date and does not take into account any experience after the valuation date.

Impact of Case Law

We have assumed that all the Plan's assets are available to cover the Plan's liabilities presented in this report.

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Valuation Results – Going Concern

Financial Status

A going concern valuation compares the relationship between the value of Plan assets and the present value of expected future benefit cash flows in respect of accrued service, assuming the Plan will be maintained indefinitely.

The results of the current valuation, compared with those from the previous valuation, are summarized as follows:

	01.07.2014	01.07.2011
Assets		
Market value of assets	$424,617,900	$328,990,200
Going concern funding target		
• Active members		
- money purchase accounts	$169,367,900	$137,095,000
- minimum guarantee benefits	$57,295,300	$53,721,100
• Pensioners and survivors		
- money purchase benefits	$145,593,700	$114,109,000
- minimum guarantee benefits	$72,317,400	$53,978,900
• Deferred pensioners		
- money purchase accounts	$13,409,700	$12,630,900
- minimum guarantee benefits	$406,600	$332,200
• Additional Voluntary Contribution Fund	$488,600	$587,500
• Special Transferred Contribution Fund	$833,100	$908,500
• Past Service Account	$1,301,900	$1,031,400
Total	$461,014,200	$374,394,500
Funding excess (shortfall)	($36,396,300)	($45,404,300)

The going concern funding target includes a provision for adverse deviations.

Reconciliation of Financial Status

Funding excess (shortfall) as at previous valuation		($45,404,300)
Interest on funding excess (shortfall) at 5.95% per year		($8,596,500)
University's special payments, with interest		$14,474,500
Expected funding excess (shortfall)		($39,526,300)
Net experience gains (losses)		
• Net investment return	$9,583,700	
• Pensionable earnings & YMPE	$7,800,000	
• Change in maximum pension limits	$900,000	
• Indexing of pensions	$2,495,300	
• Mortality	($5,740,000)	
• Retirement	$2,069,000	
• Termination	$371,000	
• MPC balances growth different from expected	$19,391,100	
• Total experience gains (losses)		$36,870,100
Impact of changes in assumptions		
• Discount rate	($6,443,900)	
• Mortality rate	($36,858,100)	
• YMPE & maximum pension increase rate	$1,968,100	
• Salary rate	$2,027,000	
• Retirement rates	$1,459,000	
• Total assumption change gains (losses)		($37,847,900)
Impact of plan amendments		$4,040,100
Net impact of other elements of gains and losses		$67,700
Funding excess (shortfall) as at current valuation		($36,396,300)

Current Service Cost

The current service cost is an estimate of the present value of the additional expected future benefit cash flows in respect of pensionable service that will accrue in each year after the valuation date, assuming the Plan will be maintained indefinitely.

The current service cost during the year following the valuation date, compared with the corresponding value determined in the previous valuation, is as follows:

University's Current Service Cost

	2014/2015		2011/2012	
	Amount	% Covered Earnings	Amount	% Covered Earnings
University money purchase component contribution[2]	$4,482,700	5.90%	$4,411,800	5.76%
Current service cost for supplemental benefits	$3,626,000	4.78%	$3,632,600	4.74%
Estimated University's current service cost	$8,108,700	10.68%	$8,044,400	10.50%
Estimated members' required contributions	$5,977,000		$5,147,100	

The key factors that have caused a change in the University's current service cost since the previous valuation are summarized in the following table:

Changes in University's Current Service Cost

University's current service cost as at previous valuation	10.50%
Demographic experience	(0.77%)
Changes in assumptions	0.95%
University's current service cost as at current valuation	10.68%

Discount Rate Sensitivity

The following table summarizes the effect on the going concern funding target shown in this report of using a discount rate which is 1.00% lower than that used in the valuation:

Scenario	Valuation Basis	Reduce Discount Rate by 1%
Going concern funding target	$461,014,200	$518,281,700
Current service cost		
• Total current service cost	$14,085,700	$16,824,000
• Estimated members' required contributions	($5,977,000)	($5,977,000)
• Estimated University's current service cost	$8,108,700	$10,847,000

[2] after application of ITA limits

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Valuation Results – Hypothetical Wind-up

Financial Position

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 is wound up and settled on the valuation date, assuming benefits are settled in accordance with the Act and under circumstances producing the maximum wind-up liabilities on the valuation date. However, to the extent permitted by law, the actuary may disregard:

- Benefits that would not be payable under the hypothesized scenario.
- Plan member earnings after the valuation date.

The hypothetical wind-up financial position as of the valuation date, compared with that at the previous valuation, is as follows:

	01.07.2014	01.07.2011
Assets		
Market value of assets	$424,617,900	$328,990,200
Termination expense provision	($450,000)	($350,000)
Wind-up assets	$424,167,900	$328,640,200
Present value of accrued benefits for:		
• Active members		
- money purchase accounts	$169,367,900	$137,095,000
- minimum guarantee benefits	$83,848,600	$66,888,900
• Pensioners and survivors		
- money purchase benefits	$145,593,700	$114,109,000
- minimum guarantee benefits	$99,546,500	$79,115,700
• Deferred pensioners		
- money purchase accounts	$13,409,700	$12,630,900
- minimum guarantee benefits	$1,554,600	$1,348,600
• Additional Voluntary Contribution Fund	$488,600	$587,500
• Special Transferred Contribution Fund	$833,100	$908,500
• Past Service Account	$1,301,900	$1,031,400
Total wind-up liability	$515,944,600	$413,715,500
Wind-up excess (shortfall)	($91,776,700)	($85,075,300)

Wind-up Incremental Cost to July 1, 2017

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, adjusted for the benefit payments expected to be made in that period.

The hypothetical wind-up incremental cost determined in this valuation, compared with the corresponding value determined in the previous valuation, is as follows:

	01.07.2014	01.07.2011
Number of years covered by report	3 years	3 years
Total hypothetical wind-up liabilities at the valuation date (A)	$515,944,600	$413,715,500
Present value of projected hypothetical wind-up liability at the next required valuation (including expected new entrants) plus benefit payments until the next required valuation (B)	$595,271,600	$487,950,200
Hypothetical wind-up incremental cost (B – A)	$79,327,000	$74,234,700

The incremental cost is not an appropriate measure of the contributions that would be required to maintain the financial position of the Plan on a hypothetical wind-up basis unchanged from the valuation date to the next required valuation date, if actual experience is exactly in accordance with the going concern valuation assumptions. This is because it does not reflect the fact that the expected return on plan assets (based on the going concern assumptions) is greater than the discount rate used to determine the hypothetical wind-up liabilities.

Discount Rate Sensitivity

The following table summarizes the effect on the hypothetical wind-up liabilities shown in this report of using a discount rate which is 1% lower than that used in the valuation:

Scenario	Valuation Basis	Reduce Discount Rate by 1%
Total hypothetical wind-up liability	$515,944,600	$584,238,200

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Valuation Results – Solvency

Overview

The Act also requires the financial position of the Plan to be determined on a solvency basis. The financial position on a solvency basis is determined in a similar manner to the Hypothetical Wind-up Basis, except for the following:

Exceptions	Reflected in valuation based on the terms of engagement
The circumstance under which the Plan is assumed to be wound up could differ for the solvency and hypothetical wind-up valuations.	The same circumstances were assumed for the solvency valuation as were assumed for the hypothetical wind-up valuation.
Certain benefits can be excluded from the solvency financial position. These include: (a) any escalated adjustment (e.g. indexing), (b) certain plant closure benefits, (c) certain permanent layoff benefits, (d) special allowances other than funded special allowances, (e) consent benefits other than funded consent benefits, (f) prospective benefit increases, (g) potential early retirement window benefit values, and (h) pension benefits and ancillary benefits payable under a qualifying annuity contract.	The following benefits were excluded from the solvency liabilities shown in this valuation: • Post retirement pension increases
The financial position on the solvency basis needs to be adjusted for any Prior Year Credit Balance.	Not applicable.
The solvency financial position can be determined by smoothing assets and the solvency discount rate over a period of up to 5 years.	Smoothing was not used.
The benefit rate increases coming into effect after the valuation date can be reflected in the solvency valuation.	Not applicable.

Financial Position

The financial position on a solvency basis, compared with the corresponding figures from the previous valuation, is as follows:

	01.07.2014	01.07.2011
Assets		
Market value of assets	$424,617,900	$328,990,200
Termination expense provision	($450,000)	($350,000)
Net assets	$424,167,900	$328,640,200
Liabilities		
Total hypothetical wind-up liabilities	$515,944,600	$413,715,500
Difference in circumstances of assumed wind-up	$0	$0
Value of excluded benefits	($135,320,600)	($93,713,900)
Liabilities on a solvency basis	$380,624,000	$320,001,600
Surplus (shortfall) on a market value basis	$43,543,900	$8,638,600
Liability smoothing adjustment	$0	$0
Asset smoothing adjustment	$0	$0
Surplus (shortfall) on a solvency basis	$43,543,900	$8,638,600
Transfer ratio	0.82	0.79
Solvency ratio	1.12	1.03

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Minimum Funding Requirements

The Act prescribes the minimum contributions that the University must make to the Plan. The minimum contributions in respect of a defined benefit component of a pension plan are comprised of going concern current service cost and special payments to fund any going concern or solvency shortfalls.

On the basis of the assumptions and methods described in this report, the rule for determining the University's minimum required monthly contributions, as well as an estimate of the University's contributions, from the valuation date until the next required valuation are as follows:

	University's contribution rule		University's estimated contributions	
Period beginning	**Monthly current service cost including money purchase contributions[3]**	**Minimum monthly special payments**	**Monthly current service cost including money purchase contributions**	**Total minimum monthly contributions**
July 1, 2014	10.68%	$386,250	$675,725	$1,061,975
July 1, 2015	10.68%	$386,250	$702,754	$1,089,004
July 1, 2016	10.68%	$386,250	$730,864	$1,117,114

The estimated contribution amounts above are based on projected members' pensionable earnings and projected members' required contributions. Therefore, the University's actual current service cost will be different from the above estimates and, as such, the contribution requirements should be monitored closely to ensure contributions are made in accordance with the Act.

The development of the minimum special payments is summarized in Appendix A.

Other Considerations

Differences Between Valuation Bases

There is no provision in the minimum funding requirements to fund the difference between the hypothetical wind-up and solvency shortfalls, if any.

In addition, although minimum funding requirements do include a requirement to fund the going concern current service cost, there is no requirement to fund the expected growth in the hypothetical wind-up or solvency liability after the valuation date, which could be greater than the going concern current service cost.

[3] Expressed as a percentage of members' earnings.

Timing of Contributions

Funding contributions are due on a monthly basis. Contributions for current service cost must be made within 30 days following the month to which they apply. Special payment contributions must be made in the month to which they apply.

Retroactive Contributions

The University must contribute the excess, if any, of the minimum contribution recommended in this report over contributions actually made in respect of the period following the valuation date. This contribution, along with an allowance for interest, is due no later than 60 days following the date this report is filed.

Payment of Benefits

The Act imposes certain restrictions on the payment of lump sums from the Plan when the transfer ratio revealed in an actuarial valuation is less than one. If the transfer ratio shown in this report 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, and otherwise should take the prescribed actions.

Additional restrictions are imposed when:

- The transfer ratio revealed in the most recently filed actuarial valuation is less than one and the administrator knows or 'ought to know' that the transfer ratio of the Plan has declined by 10% or more since the date the last valuation was filed.

- The transfer ratio revealed in the most recently filed actuarial valuation is greater than or equal to one and the administrator knows or 'ought to know' that the transfer ratio of the Plan has declined to less than 0.9 since the date the last valuation was filed.

As such, the administrator should monitor the transfer ratio of the Plan and, if necessary, take the prescribed actions.

Letters of Credit

Minimum funding requirements in respect of solvency deficiencies that otherwise require monthly contributions to the pension fund may be met, in the alternative, by establishing an irrevocable letter of credit subject to the conditions established by the Act. Required solvency special payments in excess of those met by a letter of credit must be met by monthly contributions to the pension fund.

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Maximum Eligible Contributions

The *Income Tax Act* (the "ITA") limits the amount of employer contributions that can be remitted to the defined benefit component of a registered pension plan. However, notwithstanding the limit imposed by the ITA, for plans which are not 'Designated' as defined in the ITA, in general, the minimum required contributions under the Act can be remitted.

In accordance with Section 147.2 of the ITA and *Income Tax Regulation* 8516, for a plan which is underfunded on either a going concern or on a hypothetical wind-up basis, the maximum permitted contributions are equal to the employer's current service cost, including the explicit expense allowance if applicable, plus the greater of the going concern funding shortfall and hypothetical wind-up shortfall.

For a plan which is fully funded on both going concern and hypothetical wind-up bases, the employer can remit a contribution equal to the employer's current service cost, including the explicit expense allowance if applicable, as long as the surplus in the plan does not exceed a prescribed threshold. Specifically, in accordance with Section 147.2 of the ITA, for a plan which is fully funded on both going concern and hypothetical wind-up bases, the plan may not retain its registered status if the employer makes a contribution while the going concern funding excess exceeds 25% of the going concern funding target.

Schedule of Maximum Contributions

The University is permitted to fully fund the greater of the going concern and hypothetical wind-up shortfalls $91,776,700 as well as make current service cost contributions. The portion of this contribution representing the payment of the hypothetical wind-up shortfall can be increased with interest at 3.20% per year from the valuation date to the date the payment is made, and must be reduced by the amount of any deficit funding made from the valuation date to the date the payment is made.

Assuming the University contributes the greater of the going concern and hypothetical wind-up shortfall of $91,776,700 as of the valuation date, the rule for determining the estimated maximum eligible annual contributions, as well as an estimate of the maximum eligible contributions until the next valuation, are as follows:

	University's contribution rule		University's estimated contributions
Year beginning	Monthly current service cost including money purchase contributions[4]	Deficit Funding	Monthly current service cost including money purchase contributions
July 1, 2014	10.68%	n/a	$675,725
July 1, 2015	10.68%	n/a	$702,754
July 1, 2016	10.68%	n/a	$730,864

[4] Expressed as a percentage of members' earnings

The University's current service cost in the above table was estimated based on projected members' pensionable earnings. The University's actual current service cost will be different from these estimates and, as such, the contribution requirements should be monitored closely to ensure compliance with the ITA.

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Actuarial Opinion

In our opinion, for the purposes of the valuations,

- The membership data on which the valuation is based are sufficient and reliable.
- The assumptions are appropriate.
- The methods employed in the valuation are appropriate.

This report has been prepared, and our opinions given, in accordance with accepted actuarial practice in Canada. It has also been prepared in accordance with the funding and solvency standards set by the Pension Benefits Act, Ontario.

Bill Watson
Fellow of the Canadian Institute of Actuaries
Fellow of the Society of Actuaries

March 30, 2015
Date

Emelie C. Rahilly
Fellow of the Canadian Institute of Actuaries
Fellow of the Society of Actuaries

March 30, 2015
Date

APPENDIX A

Prescribed Disclosure

Definitions

The Act defines a number of terms as follows:

Defined Term	Description	Result
Transfer Ratio	The ratio of: (a) solvency assets minus the lesser of the Prior Year Credit Balance and the minimum required employer contributions until the next required valuation; to (b) the sum of the solvency liabilities and liabilities for benefits, other than benefits payable under qualifying annuity contracts that were excluded in calculating the solvency liabilities.	0.82
Prior Year Credit Balance	Accumulated excess of contributions made to the pension plan in excess of the minimum required contributions (note: only applies if the University chooses to treat the excess contributions as a Prior Year Credit Balance).	$0
Solvency Assets	Market value of assets including accrued or receivable income and excluding the value of any qualifying annuity contracts.	$424,167,900
Solvency Asset Adjustment	The sum of:	
	(a) the difference between smoothed value of assets and the market value of assets	$0
	(b) the present value of going concern special payments (including those identified in this report) within 5 years following the valuation date	$21,414,600
	(c) the present value of any previously scheduled solvency special payments (excluding those identified in this report)	$0
		$21,414,600
Solvency Liabilities	Liabilities determined as if the plan had been wound up on the valuation date, including liabilities for plant closure benefits or permanent layoff benefits that would be immediately payable if the employer's business were discontinued on the valuation date of the report, but, if elected by the plan sponsor, excluding liabilities for, (a) any escalated adjustment, (b) excluded plant closure benefits, (c) excluded permanent layoff benefits, (d) special allowances other than funded special allowances, (e) consent benefits other than funded consent benefits, (f) prospective benefit increases, (g) potential early retirement window benefit values, and (h) pension benefits and ancillary benefits payable under a qualifying annuity contract.	$380,624,000

Solvency Liability Adjustment	The amount by which solvency liabilities are adjusted as a result of using a solvency valuation interest rate that is the average of market interest rates calculated over the period of time used in the determination of the smoothed value of assets.		$0
Solvency Deficiency	The amount, if any, by which the sum of:		
	(a)	the solvency liabilities	$380,624,000
	(b)	the solvency liability adjustment	$0
	(c)	the prior year credit balance	$0
			$380,624,000
	Exceeds the sum of		
	(d)	the solvency assets net of estimated termination expenses[5]	$424,167,900
	(e)	the solvency asset adjustment	$21,414,600
			$445,582,500
			$0

Timing of Next Required Valuation

In accordance with the Act the next valuation of the Plan would be required at an effective date within one year of the current valuation date if:

- The ratio of solvency assets to solvency liabilities is less than 85%.
- The employer elected to exclude plant closure or permanent lay-off benefits under Section 5(18) of the regulations, and has not rescinded that election.

Otherwise, the next valuation of the Plan would be required at an effective date no later than three years after the current valuation date.

Accordingly, the next valuation of the Plan will be required as of July 1, 2017.

[5] In accordance with accepted actuarial practice, for purposes of determining the financial position, the market value of plan assets was reduced by a provision for estimated termination expenses payable from the Plan's assets that may reasonably be expected to be incurred in terminating the Plan and to be charged to the Plan.

Special Payments

Based on the results of this valuation, the Plan is not fully funded. In accordance with the Act, any going concern deficits must be amortized over a period not exceeding 15 years, beginning on a date not later than 12 months after July 1, 2014, and any solvency deficits must be amortized over a period not exceeding 5 years, also beginning on a date not later than 12 months after July 1, 2014.

As such, special payments must be made as follows:

				Present Value	
Type of payment	**Start date**	**End date**	**Monthly Special Payment**	**Going Concern Basis**[6]	**Solvency Basis**[7]
Going concern	July 1, 2004	July 1, 2019	$56,233	$2,926,900	$3,118,100
Going concern	July 1, 2007	July 1, 2022	$18,744	$1,439,800	$1,039,200
Going concern	July 1, 2008	July 1, 2023	$83,059	$6,991,100	$4,604,900
Going concern	July 1, 2012	July 1, 2027	$228,214	$25,038,500	$12,652,400
Total			$386,250	$36,396,300	$21,414,600

The present value of going concern special payments scheduled in the previous valuation exceeded the going concern shortfall. In accordance with the Act, the excess can be used to reduce the amount or the period of any going concern special payment schedule. Therefore, we have reduced the amount of the monthly special payment previously established on July 1, 2004 from $118,760 to $56,233.

[6] Calculation only considers going concern special payments and is based on a going concern discount rate.

[7] Calculation considers both solvency and going concern special payments (five years only) and is based on the average solvency discount rate.

Pension Benefit Guarantee Fund (PBGF) Assessment

The PBGF assessment base and liabilities are derived as follows:

Solvency assets	$424,617,900	(a)
PBGF liabilities	$380,624,000	(b)
Solvency liabilities	$380,624,000	(c)
Ontario asset ratio	100%	(d) = (b) ÷ (c)
Ontario portion of the fund	$424,617,900	(e) = (a) x (d)
PBGF assessment base	$0	(f) = (b) – (e)
Amount of additional liability for plant closure and/or permanent layoff benefits which is not funded and subject to the 2% assessment pursuant to s.37(4)	$0	(g)

The PBGF assessment is calculated as follows:

$5 for each Ontario member	$6,170	(h)
0.5% of PBGF assessment base up to 10% of PBGF liabilities	$0	(i)
1.0% of PBGF assessment base between 10% and 20% of PBGF liabilities	$0	(j)
1.5% of PBGF assessment base over 20% of PBGF liabilities	$0	(k)
Sum of (h), (i), (j) and (k)	$6,170	(l)
$300 for each Ontario member	$370,200	(m)
Lesser of (l) and (m)	$6,170	(n)
2.0% of additional liabilities ((g) x 2%)	$0	(o)
Total Guarantee Fund Assessment ((n) + (o), no less than $250) (before applicable tax)	$6,170	(p)

Please note that the PBGF assessment is subject to Provincial Sales Tax of 8% resulting in a total amount payable of $6,663.60.

APPENDIX B

Plan Assets

The pension fund is held by Northern Trust Company. In preparing this report, we have relied upon fund statements prepared by Northern Trust Company without further audit. Customarily, this information would not be verified by a plan's actuary. We have reviewed the information for internal consistency and we have no reason to doubt its substantial accuracy.

Reconciliation of Market Value of Plan Assets

The pension fund transactions since the last valuation are summarized in the following table:

	2011/2012	2012/2013	2013/2014
July 1	$328,990,244	$324,009,566	$358,150,357
PLUS			
Members' contributions	$5,230,095	$5,904,584	$6,060,494
University's MPC contributions	$4,482,245	$4,428,438	$4,545,370
University's MGB contributions	$3,575,484	$3,553,292	$3,635,358
University's special funding payments	$2,646,756	$5,385,324	$5,385,324
Investment income & net capital gains (losses)	$1,845,421	$37,244,825	$71,481,802
	$17,780,001	$56,516,463	$91,108,348
LESS			
Pensions paid	$16,597,069	$17,675,139	$18,618,956
Lump-sums paid	$4,478,532	$3,125,975	$3,844,404
Investment fees	$1,185,820	$1,103,500	$1,317,537
Professional fees	$245,549	$154,013	$241,651
Administration fees	$253,709	$317,045	$309,192
	$22,760,679	$22,375,672	$24,331,740
July 1	$324,009,566	$358,150,357	$424,926,965
Rate of return net of expenses[8]	0.05%	11.04%	19.51%

[8] Assuming mid-period cash flows.

The market value of assets shown in the above table is adjusted to reflect in-transit amounts as follows:

	Current Valuation	Previous Valuation
Market value of invested assets	$424,926,965	$328,990,244
In-transit amounts		
• Members' contributions	$0	$0
• University's contributions	$0	$0
• Expenses	($0)	($0)
• Benefit payments	($309,093)	($0)
Market value of assets adjusted for in-transit amounts	$424,617,872	$328,990,244

We have tested the pensions paid, the lump-sums paid, and the contributions for consistency with the membership data for the Plan members who have received benefits or made contributions. The results of these tests were satisfactory.

Investment Policy

The plan administrator has 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 that is consistent with the Plan's investment objectives. A significant component of this investment policy is the asset mix.

The plan administrator is solely responsible for selecting the plan's investment policies, asset allocations, and individual investments.

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 as at July 1, 2014
	Minimum	Target	Maximum	
Canadian equities	20%	30%	40%	32.2%
Global equities	20%	30%	40%	30.6%
Fixed income	25%	40%	60%	34.5%
Cash and cash equivalents	0%	0%	20%	2.7%
		100%		100%

Individual Accounts

Each year the investment income in addition to realised gains and losses is allocated to the various sub-funds. The balances in the sub-funds as at June 30, 2014 are as follows:

	Market Value
Money Purchase Component Account	$182,777,700
Additional Voluntary Contribution Account	488,555
Special Transfer Fund	833,111
Variable Annuity Fund	145,593,662
Past Service Account	1,301,872
Minimum Guarantee Fund	93,932,065
	$424,926,965

A detailed description of each fund follows:

Money Purchase Component Account

The Money Purchase Component Account consists of the Members' required contributions, the University's required Money Purchase Component contributions, and interest based on fund experience, including realised and unrealised gains and losses, net of expenses. At retirement the accumulated amounts will be transferred to the Variable Annuity Fund and will provide a Money Purchase Pension.

The Money Purchase Component Account balance as at June 30, 2014 is $182,777,700 ($169,367,950 in respect of active members and $13,409,750 in respect of deferred vested members).

Additional Voluntary Contribution Fund

This fund is composed of additional voluntary contributions. A Member may elect to contribute additional contributions up to the maximum allowable under the Income Tax Act, and all voluntary contributions will be accumulated with Credited Interest and used at retirement to provide such additional amount of pension as can be provided therewith based on actuarial tables in force for Plan purposes at that time.

The market value of the Additional Voluntary Contribution Fund was $488,555 as at June 30, 2014.

Special Transferred Contribution Fund

This fund includes lump sums transferred in from other plans. These amounts will be accumulated with Credited Interest and used at retirement to provide such additional amounts of pension as can be provided based on actuarial tables in force for Plan purposes at that time.

The market value of the Special Transferred Contribution Fund was $833,111 as at June 30, 2014.

Variable Annuity Fund

This fund provides variable annuities to members who retired on and after July 1, 1972. The accumulated Money Purchase Component Account of each member is transferred to this fund at retirement.

The market value of the Variable Annuity Fund was $145,593,662 as at June 30, 2014. There were 410 persons in receipt of pension benefits as at this date.

Past Service Account

This fund includes amounts that members have transferred into the Plan in respect of past service purchased. The market value of this fund was $1,301,872 as at June 30, 2014.

Minimum Guarantee Fund

This fund was created to support the minimum final earnings-related guarantee based on length of service and linked to cost of living. If after retirement, the pension in any one year payable to a Member from the Variable Annuity Fund falls below the minimum guarantee applicable to that year, the difference will be paid from the Minimum Guarantee Fund.

In addition, this fund provides benefits to pensioners and terminated members with vested benefits, who retired or vested prior to July 1, 1972.

As at July 1, 2014, this fund has assets at market value of $93,932,065.

APPENDIX C

Methods and Assumptions – Going Concern

Valuation of Assets

For this valuation, we have used the market value of assets.

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 actuarial present value of benefits accrued in respect of service prior to the valuation date, including ancillary benefits as follows:

- We project the money purchase pension and the minimum guarantee pension that each active Member will receive during retirement based on projected service, earnings, and the money purchase account balance (including future contributions).

- We compare the money purchase pension with the minimum guarantee benefit at each year after retirement.

- The present value of any supplementary pension, representing the excess of the minimum guarantee over the money purchase pension, is allocated to accrued and future liabilities proportionately by service.

- The present value of the accrued supplementary pension benefit is compared to the value of the Minimum Guarantee Fund at the valuation date to determine any funding excess or funding shortfall under the Plan.

- The present value of any supplementary pension, representing the excess of the minimum guarantee over the money purchase pension, is allocated to the year following the valuation date proportionately by service to determine the current service cost rate.

This is referred to as the funding target.

The funding excess or funding shortfall, as the case may be, is the difference between the market or smoothed value of assets and the funding target. A funding excess on a market value basis indicates that the current market 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 be sufficient to meet the plan's cash flow requirements in respect of accrued benefits, absent additional contributions.

As required under the Act, a funding shortfall must be amortized over no more than 15 years through special payments. A funding excess may, from an actuarial standpoint, be applied immediately to reduce required employer current service contributions unless precluded by the terms of the plan or by legislation.

The actuarial cost 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 cost 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 in each year during the period until the next valuation.

The University's current service cost has been expressed as a percentage of the members' 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 members' required contributions, can be expected to remain stable as long as the average age of the group remains constant.

Actuarial Assumptions – Going Concern Basis

The present value of future benefit payment cash flows 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:	5.90%	5.95%
Inflation:	2.00%	2.60%
ITA limit / YMPE increases:	3.00%	3.50%
Pensionable earnings increases:	4.00% for 3 years and 5.00% thereafter	5.00%
Post retirement minimum guaranteed pension increases:	2.00%	2.00%
Post retirement money purchase pension increases:	(0.10%)	(0.05%)
Interest on employee contributions:	5.90%	5.95%
Retirement rates:	Revised age-related table	Age-related table
Termination rates:	Same age-related table	Age-related table
Mortality rates:	95% of the rates of the 2014 Public Sector Canadian Pensioners Mortality Table (CPM2014Publ)	100% of the rates of the 1994 Uninsured Pensioners Mortality Table
Mortality improvements:	Fully generational using CPM Improvement Scale B (CPM-B)	Fully generational using Scale AA
Disability rates:	None	None
Eligible spouse at retirement:	85%	85%
Spousal age difference:	Male 3 years older	Male 3 years older

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

Age Related Tables

Sample rates from the age-related tables are summarized in the following table:

Age	Termination	Retirement
20	4.0%	0.0%
25	4.0%	0.0%
30	4.0%	0.0%
35	4.0%	0.0%
40	4.0%	0.0%
45	4.0%	0.0%
50	4.0%	0.0%
55	0.0%	2.0%
56	0.0%	2.0%
57	0.0%	2.0%
58	0.0%	2.0%
59	0.0%	2.0%
60	0.0%	2.0%
61	0.0%	5.0%
62	0.0%	5.0%
63	0.0%	5.0%
64	0.0%	5.0%
65	0.0%	20.0%
66	0.0%	20.0%
67	0.0%	40.0%
68	0.0%	60.0%
69	0.0%	60.0%
70	0.0%	60.0%
71	0.0%	100.0%

Pensionable Earnings

The benefits ultimately paid will depend on each member’s final average earnings. To calculate the pension benefits payable upon retirement, death, or termination of employment, we have taken the rate of pay on July 1, 2014 and assumed that such pensionable earnings will increase at the assumed rate.

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 payment cash flows 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 is comprised of the following:

- 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.
- Implicit provision for passive investment expenses of 5bps, reflecting no advance recognition of potential future additional return achieved through active management of equities.
- Implicit provision for non-investment expenses based on a review of the average rate of such expenses paid from the fund over the last 3 years and future expectations.
- A margin for adverse deviations of 0.25%.

The discount rate was developed as follows:

Assumed investment return	6.42%
Implicit provision for expenses	(0.25%)
Margin for adverse deviation	(0.25%)
Net discount rate (rounded)	5.90%

Inflation

The inflation assumption is based on the mid-point of the Bank of Canada's inflation target range of between 1% and 3%.

Income Tax Act Pension Limit and Year's Maximum Pensionable Earnings

The assumption is based on historical real economic growth and the underlying inflation assumption.

Pensionable Earnings

The assumption is based on general wage growth assumptions increased by our best estimate of future merit and promotional increases over general wage growth considering current economic and financial market conditions, applicable collective agreement provisions, and University expectations.

Post-Retirement Pension Increases

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

Retirement Rates

The assumption is based on experience over the years 2008/2009 to 2013/2014, and expectations of future experience based on Plan terms and employment standards law.

Termination Rates

The assumption is based on experience from 2008/2009 to 2013/2014.

Mortality Rates

The assumption for the mortality rates is based on the Canadian Pensioners' Mortality (CPM) study published by the Canadian Institute of Actuaries in February 2014. Due to the size of the Plan, specific data on plan mortality experience is insufficient to determine the mortality rates. The CPM mortality rates have been adjusted (95%) after considering plan-specific characteristics, such as the type of employment, the industry experience, the pension and employment income for the plan members, and data in the CPM study.

There is broad consensus among actuaries and other longevity experts that mortality improvement will continue in the future, but the degree of future mortality improvement is uncertain. The mortality improvement scale published in the CPM study represents one reasonable outlook for future improvement. We have used the CPM mortality improvement scale without adjustment.

Based on the assumption used, the life expectancy of a member age 65 at the valuation date is 23.0 years for males and 24.9 years for females.

Money Purchase Pension Adjustment for New Mortality Table

The change to the public sector mortality table (CPM2014Publ) and CPM-B mortality improvement scale is to be assumed to be accompanied by a decrease in money purchase pensions so that the Variable Annuity Fund is unchanged (i.e. entire cost is charged to pensioners). This means all Money Purchase Pensions at July 1, 2014 are assumed to decrease by the following factors relative to their previous level:

- Pre July 1, 2004 Retirements: (GAM83 / CPM2014Publ);
- Post July 1, 2004 Retirements: (UP94 / CPM2014Publ).

Money Purchase Account Conversion

Based on the current administrative practice, all members who participate in the Variable Annuity Fund receive pensions from their Money Purchase Account balances determined using an interest rate of 6% per annum and the following mortality rates:

- Pre-July 1, 2004 retirements - 1983 Group Annuity Mortality Table;
- Post-July 1, 2004 retirements - 1994 Uninsured Pensioners Mortality Table Fully generational using Scale AA

The current administration practice of Money Purchase Account conversion is under review. For the purposes of this valuation we have assumed that the mortality assumption will be changed to 95% of the rates of the public sector mortality table (CPM2014Publ) and CPM-B mortality improvement scale.

Disability Rates

Use of a different assumption would not have a material impact on the valuation.

Eligible Spouse

The assumption is based on an industry standard for non-retired members (actual status used for retirees).

Spousal Age Difference

The assumption is based on an industry standard showing males are typically 3 years older than their spouse.

APPENDIX D

Methods and Assumptions – Hypothetical Wind-up and Solvency

Hypothetical Wind-up 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, with all members fully vested in their accrued benefits.

The circumstance in which the plan wind-up is assumed to have taken place is that the University ceases operations on the valuation date. No benefits payable on plan wind-up under the above postulated scenario were excluded from our calculations.

Upon plan wind-up, members are given options for the method of settling their benefit entitlements. The options vary by eligibility and by province of employment, but in general, involve either a lump sum transfer or an immediate or deferred pension.

The value of benefits assumed to be settled through a lump sum transfer is based on the assumptions described in Section 3500 – *Pension Commuted Values* of the Canadian Institute of Actuaries' Standards of Practice applicable for July 1, 2014.

Benefits provided as an immediate or deferred pension are assumed to be settled through the purchase of annuities based on an estimate of the cost of purchasing annuities. However, there is limited data available to provide credible guidance on the cost of a purchase of indexed annuities in Canada. In accordance with the *Canadian Institute of Actuaries Educational Note: Assumptions for Hypothetical Wind-up and Solvency Valuations with Effective Dates Between December 31, 2013 and December 30, 2014*, and the subsequent *Educational Note Supplement: Guidance for Assumptions for Hypothetical Wind-up and Solvency Valuations Update – Effective June 30, 2014 and Applicable to Valuation with Effective Dates Between June 30, 2014, and December 30, 2014,* we have assumed that an appropriate proxy for the risk-based inflation reflected in the purchase price of annuities is that implied by the discount rates used for non-indexed annuities and fully indexed annuities..

We have not included a margin for adverse deviation in the solvency and hypothetical wind-up valuations.

The assumptions are as follows:

Form of Benefit Settlement Elected by Member	
Lump sum	70% of active members under age 55, and 50% of active members over age 55, elect to receive their benefit entitlement in a lump sum
Annuity purchase	All remaining members are assumed to elect to receive their benefit entitlement in the form of a deferred or immediate pension. These benefits are assumed to be settled through the purchase of deferred or immediate annuities from a life insurance company.
Basis for Benefits Assumed to be Settled through a Lump Sum	
Mortality rates:	UP94 generational with projection scale AA
Interest rate:	2.80% per year for 10 years, 4.20% per year thereafter
Inflation rate:	1.34% per year for 10 years, 2.37% per year thereafter
Basis for Benefits Assumed to be Settled through the Purchase of an Annuity	
Mortality rates:	UP94 generational with projection scale AA
Interest rate:	3.28% per year based on a duration of 12.9 years determined for the liabilities assumed to be settled through the purchase of an annuity.
Inflation rate:	3.63% per year (representing the risk-adjusted inflation rate reflected in the purchase price of indexed annuities)
Retirement Age	
Maximum value:	Members are assumed to retire at the age which maximizes the value of their entitlement from the Plan, based on the eligibility requirements which have been met at the valuation date
Grow-in:	The benefit entitlement and assumed retirement age of Ontario members whose age plus service equals at least 55 at the valuation date reflect their entitlement to grow into early retirement subsidies
Post retirement pension increases[9]	
Minimum Guarantee pension:	Lump Sum: 1.34% per year for 10 years, 2.00% per year thereafter Annuity Purchase: 2.00% per year
Money Purchase pension:	Lump Sum: (3.20%) per year for 10 years, (1.80%) per year thereafter Annuity Purchase: (2.72%) per year

Post retirement pension increases

The assumption is based on the Plan formula, the inflation assumption above (minimum guarantee), and the discount rates above (money purchase).

Other assumptions	
Special payments	The average interest rate is 3.20% per year
Final average earnings:	Based on actual pensionable earnings over the averaging period
Family composition:	Same as for going concern valuation
Maximum pension limit:	Same as for going-concern valuation
Termination expenses:	$450,000

[9] Excluded from solvency liabilities

For solvency and wind-up valuation purposes, we have assumed that, for active members, the annuity conversion basis used at the time of their ultimate pension commencement will be the conversion basis used to value the supplementary benefits for funding purposes.

To determine the hypothetical wind-up position of the Plan, 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.

Because the settlement of all benefits on wind-up is assumed to occur on the valuation date and is assumed to be uncontested, the provision for termination expenses does not include custodial, investment management, auditing, consulting, and legal expenses that would be incurred between the wind-up date and the settlement date or due to the terms of a wind-up being contested.

Expenses associated with the distribution of any surplus assets that might arise on an actual wind-up are also not included in the estimated termination expense provisions.

In determining the provision for termination expenses payable from the Plan's assets, we have assumed that the plan sponsor would be solvent on the wind-up date. We have also assumed, without analysis, that the Plan's terms as well as applicable legislation and court decisions would permit the relevant expenses to be paid from the Plan.

Actual fees incurred on an actual plan wind-up may differ materially from the estimates disclosed in this report.

Incremental Cost

In order to determine the incremental cost, we estimate the hypothetical wind-up liabilities at the next valuation date. We have assumed that the cost of settling benefits by way of a lump sum or purchasing annuities remains consistent with the assumptions described above. Since the projected hypothetical wind-up liabilities will depend on the membership in the Plan at the next valuation date, we must make assumptions about how the Plan membership will evolve over the period until the next valuation.

We have assumed that the Plan membership will evolve in a manner consistent with the going concern assumptions as follows:

- Members terminate, retire and die consistent with the termination, retirement and mortality rates used for the going concern valuation.
- Pensionable earnings, money purchase accounts, the Income Tax Act pension limit, and the Year's Maximum Pensionable Earnings increase in accordance with the related going concern assumptions.
- Active members accrue pensionable service in accordance with the terms of the Plan.
- To accommodate for new entrants to the Plan, we have added to the projected liability, an amount equal to the liability of new entrants that have joined the Plan since the previous valuation.

- Cost of living adjustments are consistent with the inflation assumption used for the going concern valuation.

Solvency Basis

In determining the financial position of the Plan on the solvency basis, we have used the same assumptions and methodology as were used for determining the financial position of the Plan on the hypothetical wind-up basis with the exception that we have excluded post retirement indexing.

The solvency position is determined in accordance with the requirements of the Act.

APPENDIX E

Membership Data

Analysis of Membership Data

The actuarial valuation is based on membership data as at July 1, 2014, provided by the University.

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. Contributions, lump sum payments, and pensions to retirees were compared with corresponding amounts reported in financial statements. The results of these tests were satisfactory.

If the data supplied are not sufficient and reliable for its intended purpose, the results of our calculation may differ significantly from the results that would be obtained with such data. Although Mercer has reviewed the suitability of the data for its intended use in accordance with accepted actuarial practice in Canada, Mercer has not verified or audited any of the data or information provided.

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

	01.07.2014	01.07.2011
Active Members		
Number	657	678
Total annualized pensionable earnings (2014/2015, 2011/2012)	$82,744,887	$80,800,131
Average annualized pensionable earnings for following year	$125,944	$119,174
Average years of pensionable service	11.8 years	11.2 years
Average age	51.8	50.6
Accumulated Money Purchase Component Account Balance	$169,221,810	$134,884,439
Disabled Members		
Number	1	6
Total pensionable earnings (2014/2015, 2011/2012)	$107,559	$699,328
Average pensionable earnings for following year	$107,559	$116,555
Average years of pensionable service	8.9 years	19.2 years
Average age	45.0	60.9
Accumulated Money Purchase Component Account Balance	$146,140	$2,210,551
Deferred Pensioners		
Number	166	171
Average age	53.8	51.2
Accumulated Money Purchase Component Account Balance	$13,409,750	$12,630,915
Pensioners and Survivors		
Number	410	366
Average Monthly Money Purchase Pension	$3,350	$2,920
Average Monthly Minimum Guaranteed Benefit	$3,826	$3,583
Average Monthly Temporary Pension	$0	$491 (1 pensioner)
Average age	76.1	75.5

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

	Actives	LTD	Deferred Pensioners	Pensioners and Survivors	Total
Total at 01.07.2011	678	6	171	366	1,221
New entrants	78		3		81
Return to active	1	(1)			0
Terminations:					
• transfers/lump sums	(26)		(18)		(44)
• deferred pensions	(24)		24		0
LTD	(1)	1			0
Deaths	(4)	(2)		(30)	(36)
Beneficiaries				13	13
Retirements	(45)	(3)	(13)	61	0
Adjustments			(1)		(1)
Total at 01.07.2014	657	1	166	410	1,234

The distribution of the active members by age and pensionable service as at July 1, 2014 is summarized as follows:

	Years of Pensionable Service							
Age	0-4	5-9	10-14	15-19	20-24	25-29	30 +	Total
25 - 29	4							4
30 - 34	14	3						17
35 - 39	33	29	2					64
40 - 44	19	49	24	1				93
45 - 49	27	38	45	4	2			116
50 - 54	17	25	44	15	15			116
55 - 59	17	22	20	11	14	9	2	95
60 - 64	6	18	14	10	11	16	7	82
65 +	7	5	12	4	5	17	20	70
Total	144	189	161	45	47	42	29	657

The distribution of the deferred pensioners by age as at the valuation date is summarized as follows:

	Deferred Pensioners		
Age	Number	Average Annual Minimum Guarantee Pension at Age 65	Average Money Purchase Account Balance at 01.07.2014
< 40	6	$5,460	$54,424
40 – 44	23	$3,078	$35,856
45 – 49	33	$5,538	$61,118
50 – 54	33	$5,456	$73,981
55 – 59	30	$5,198	$83,576
60 – 64	24	$5,961	$98,580
65 +	17	$3,522	$172,181
Total	166	$4,971	$80,782

The distribution of the pensioners and survivors by age as at the valuation date is summarized as follows:

	Pensioners and Survivors			
Age	Number	Average Annual Minimum Guarantee Pension (A)	Average Annual Money Purchase Pension (B)	Maximum of (A) and (B)
< 60	6	$20,392	$22,356	$25,763
60 – 64	11	$22,910	$25,289	$28,069
65 – 69	62	$46,187	$44,904	$49,252
70 – 74	107	$52,103	$49,935	$54,926
75 – 79	108	$48,378	$41,335	$49,066
80 – 84	70	$45,515	$33,877	$45,809
85 – 89	26	$34,741	$24,704	$35,035
90 – 94	18	$36,430	$24,081	$36,430
95 – 99	2	*	*	*
100 +				
Total	410	$45,917	$40,199	$47,584

** For individual cells with information on two members or less, the average earnings are not disclosed for confidentiality reasons.*

APPENDIX F

Summary of Plan Provisions

Mercer has used and relied on the plan documents, including amendments and interpretations of plan provisions, supplied by the University. If any plan provisions supplied are not accurate and complete, the results of any calculation may differ significantly from the results that would be obtained with accurate and complete information. Moreover, plan documents may be susceptible to different interpretations, each of which could be reasonable, and the results of estimates under each of the different interpretations could vary.

This valuation is based on the plan provisions in effect on July 1, 2014. Since the date of the last valuation, there have been changes to the Plan provisions:

- Effective July 1, 2016, member contribution rates to the Money Purchase component will increase from 8% of earnings to 9% of earnings.

- Effective July 1, 2016, Members who remain actively employed beyond their Normal Retirement Date shall continue to participate in the Plan, and will no longer have the option to cease contributing to the Plan. Such continuation of participation includes continued contributions to the Money Purchase Component and continued accrual of credited service under the Minimum Guarantee plan formula.

The following is a summary of the main provisions of the Plan in effect on July 1, 2014. This summary is not intended as a complete description of the Plan.

Background The University of Windsor Employees' Retirement Plan was established on September 1, 1955. As of January 1, 1970, the Employees' Retirement Plan was amended to provide benefits to Faculty and Certain Employees under the provisions of the University of Windsor Retirement Plan for Faculty and Certain Employees which was established as of that date.

The Retirement Plan for Faculty and Certain Employees was amended effective July 1, 1985 to provide an increase in the Minimum Guaranteed Benefit level.

This Plan was again amended and restated as at January 1, 1988 to incorporate the new provisions of the Pension Benefits Act of Ontario, 1987, as well as amended effective May 1, 1989 to provide additional early retirement benefits.

The Plan was further amended effective July 1, 1990 to provide for the temporary non-reduction of Money Purchase Pensions and to introduce a new indexing formula to be applied to Minimum Guaranteed Benefits. The non-reduction of Money Purchase Pension was to be applied until July 1, 1995.

The Plan was amended and restated with effect from January 1, 1995 to incorporate the new provisions required by the Income Tax Act.

The Plan was amended effective July 1, 1993 to incorporate the following negotiated benefit improvements by the Faculty Association:

- increased Minimum Guaranteed Benefit formula (to 1.30/2.00% level)
- change Best Average Earnings from 5 year average to 4 year average
- change in the Canada Customs and Revenue Agency maximum pension test
- change in the post retirement indexation formula for the Minimum Guaranteed Benefit
- extension of the Voluntary Early Retirement (VER) program to August 31, 1996
- an ad hoc CPI related increase to the Minimum Guaranteed Benefit as at July 1, 1993, capped at 5%

The Plan was amended effective September 1, 1996 to incorporate the following negotiated improvements by the Faculty Association:

- increase Minimum Guaranteed Benefit formula (to 1.35%/2.00% level)
- change Best Average Earnings to allow non-consecutive years
- allow a past service buyback for certain members
- allow a temporary suspension of contributions by both Members and the University
- extension of the Voluntary Early Retirement (VER) program to August 31, 1998

The Plan was amended effective September 1, 1998 to improve benefits as follows:

- increase Minimum Guaranteed Benefit formula to (1.45/2% level),
- increase the Minimum Guaranteed Benefit pension for those retired members as at July 1, 2001 to the level they would have received had they been given full CPI increases since pension commencement,
- allow a temporary suspension of contributions by both Members and the University,
- extension of the Voluntary Early Retirement (VER) program to August 31, 2001.

The Plan was amended effective July 1, 2001 to improve benefits as follows:

- increase Minimum Guaranteed Benefit formula to (1.5/2% level),
- increase the contributions by both Members and the University to a flat 6% of pensionable earnings,
- further extend the contribution holidays for both members and the University.

The Plan was amended effective July 1, 2012 to increase the member Money Purchase contribution from 6% of Pensionable Earnings to 8% of Pensionable Earnings.

Effective July 1, 2016, member contribution rates to the Money Purchase component will increase from 8% of earnings to 9% of earnings.

Effective July 1, 2016, the post retirement option to cease contributing to the Plan will no longer available. Members who remain actively employed beyond their normal retirement age continue to participate in the Plan.

Eligibility for membership	Permanent full-time members of the faculty and certain administrative staff who cannot be included in the bargaining unit and other designated employees are eligible to participate. Each new employee who is eligible, and joins the University on or after July 1, 1971 will be required to join the Plan on the January 1st or July 1st coincident with or following their date of appointment or attainment of age 25, whichever is later. An employee who is employed on a less than full-time basis is eligible to become a Member on the first day of the month coincident with or following the completion of 24 months of Continuous Service, provided that the employee has either earned at least 35% of the Year's Maximum Pensionable Earnings, or worked at least 700 hours in each of the 2 immediately preceding consecutive calendar years.
Pensionable Service	The pensionable service is contributory service under the Plan.
Contributions	Members are required to contribute to the Money Purchase Component Account an amount equal to 6% of Pensionable Earnings until December 31, 2011; 8% of Pensionable Earnings from January 1, 2012 to June 30, 2016; and 9% of Pensionable Earnings on and after July 1, 2016. The University is required to contribute 6% of Member Pensionable Earnings. On retirement, the Money Purchase Component Account for a disabled Member will include contributions deemed to be made by the Member, plus University contributions deemed to be made on behalf of the Member during the period of disability. The University pays the whole of the balance required to provide the supplemental benefits under the Plan.
Contributions Suspension	Effective September 1, 1998, contributions by Members and the University to the Money Purchase Component were temporarily suspended until such time as the total amount of the suspended contributions reached $14,720,000. Also effective September 1, 1998, the University's contributions to the Minimum Guarantee component of the plan were temporarily being suspended until such time as the total amount of the suspended University contributions reached $2,230,000. As part of the negotiated benefit improvements effective July 1, 2001, the contribution holidays were extended for both the University and the Members. The amount of additional contribution holiday was equal to the amount of funding excess as at July 1, 2001 in excess of $2,600,000. This additional contribution holiday of $3,484,992 was attributed one-third to the members and two-thirds to the University. The members were on a half contribution holiday once the contribution holiday established September 1, 1998 expired (February 16, 2005). During that time the members contributed half of the required contributions (i.e. 3% of pensionable earnings). During the contribution holiday, money was transferred from the funding excess to each Member's "Money Purchase Component Account" equal to the contributions the Member would have otherwise been required to make, plus the amount of contributions the University would have made on behalf of the Member.

Retirement Benefits

Money Purchase Pension

Each Member who retires from active service with the University at their Normal Retirement Date will receive a pension, commencing on such date and payable for life in monthly instalments but guaranteed in any event for 60 months, in such amount as can be provided from the total balance in the Money Purchase Component Account to the Member's credit, based on the actuarial tables in force for Plan purposes at that time. Such basic pension will be in the form of a variable benefit which will remain constant during each Plan Year but may vary from year to year depending upon the experience of that portion of the Pension Fund relating to retired Members during the preceding Plan Year, as determined by the Actuary.

Supplementary Pension

In addition, each Member who retires from active service with the University at their Normal Retirement Date will receive such amount of Supplementary Pension, payable for life but guaranteed in any event for 60 months, from the Minimum Guarantee Fund as may be required to provide a total pension during each Plan Year equal to the Minimum Guaranteed Benefit for that year.

The amount of the Minimum Guaranteed Benefit payable at the Normal Retirement Date will be calculated as follows:

(a) 1.50% of the Member's Best Average Earnings not in excess of the Average Canada Pension Plan Base, plus

(b) 2.00% of the Member's Best Average Earnings in excess of the Average Canada Pension Plan Base;

multiplied by the Member's Pensionable Service.

The Minimum Guaranteed Benefit is indexed according to the following formula:

% CPI Increase	% Increases In Minimum Guaranteed Pension
0% to 2%	100% of CPI increase
2% to 4%	2%
4% to 8%	50% of CPI increase
greater than 8%	4%

Early Retirement

Upon early retirement, the Money Purchase Pension and Minimum Guaranteed Benefits are calculated as the actuarial equivalent of the pensions payable at Normal Retirement.

Postponed Retirement

A Member who continues participation after Normal Retirement has the option of either continuing to contribute to the Money Purchase Component and continuing to accrue Minimum Guarantee service or ceasing contributions to the Money Purchase Component and receiving an actuarially increased pension at time of retirement.

Effective July 1, 2016, the option to cease contributing to the Plan will no longer be available to Members who remain actively employed beyond their Normal Retirement Date. These Members will continue to participate in the Plan, and will continue making contributions to the Money Purchase component and will continue accruing credited service under the Minimum Guarantee plan formula.

Maximum Minimum Guaranteed Benefit

The Minimum Guaranteed Benefit shall not exceed the years of the Member's Pensionable Service multiplied by the lesser of:

(a) $2,770.00 for 2014 or such greater benefit as may be permitted under the Income Tax Act; and

(b) 2% of the average of the Member's best three consecutive years' remuneration from the University,

reduced, if the pension commencement date precedes the earlier of the day on which:

(a) the Member attains age 60;

(b) the Member's age plus Continuous Service is equal to 80; and

(c) the Member completes 30 years of Continuous Service,

by 1/4 of 1% for each month by which the pension commencement date precedes that day, provided that no reduction shall apply in the case of a pension payable as a result of a Total and Permanent Disability.

For Service prior to January 1, 1995, Service is capped at 35 years when determining the maximum supplementary pension. Also for service prior to January 1, 1995, the value of the pension benefit provided upon early retirement cannot exceed the above maximum pension payable to age 60 in the form of a single life annuity guaranteed for 10 years.

The Canada Customs and Revenue Agency maximum pension test is to be applied to the form of pension selected, rather than the normal form of pension.

There is no limit on the amount of the pension that the member can purchase from the funds accumulated in the Money Purchase Account.

Death benefits

Pre-retirement:

In the event of death of a member while in the employment of the University, there will be payable to his/her named beneficiary or, if none, to his/her estate, a lump sum payment equal to the sum of the following:

(a) the balance of his/her Money Purchase Component Account at January 1, 1987 with Credited Interest to the date of death;

(b) the greater of:

  (i) employee and University contributions made on and after January 1, 1987 with Credited Interest to the date of death; and

  (ii) the Commuted Value of the deferred pension accrued after December 31, 1986;

(c) the total of his/her additional voluntary and special lump sum contributions including those amounts transferred under special agreement with a former University with Credited Interest to date of death.

Post retirement:

The normal form of payment is a lifetime pension guaranteed for five years. If the member has a spouse, an actuarially equivalent retirement option, such that the death benefit is a spousal pension of at least 60% of the retirement income which was payable during the member's lifetime, must be provided unless the member's spouse waives his or her right to such spousal pension. In that case, or if the member does not have a spouse, other optional retirement income forms are available.

Termination Benefits	A Member who terminates employment is entitled to a locked-in deferred pension. Such terminating Member may elect to transfer the greater of: (i) his/her Money Purchase Component Account balance; and (ii) the Commuted Value of his/her deferred pension, to another registered pension plan or a locked-in registered retirement savings plan. A Member who terminates employment is entitled to either leave the balance of his/her additional voluntary contributions, if any, under the Plan to provide an additional pension or receive a lump sum refund of his/her additional voluntary contributions with Credited Interest.
Disability Accrual	During any period of Total Disability, the Member shall continue to accrue benefits as though he were still actively employed. Also, the Member shall be deemed to have received Earnings during the disability period based on his/her level of Earnings prior to disability. The Year's Maximum Pensionable Earnings shall remain constant during the disability period at the level in effect in the year of disability. For the purpose of determining all benefits under the Plan, except death benefits, the Member's Money Purchase Component Account shall include all deemed contributions the Member would have been required to make had he not been disabled, using the Member's Earnings and the Year's Maximum Pensionable Earnings in effect in the month prior to disability, along with the amount of deemed contributions the University would have made on behalf of the Member.

APPENDIX G

University Certification

With respect to the Report on the Actuarial Valuation for Funding Purposes as at July 1, 2014, of the University of Windsor Retirement Plan for Faculty and Certain Employees, I hereby certify that, to the best of my knowledge and belief:

- The valuation reflects the terms of the University's engagement with the actuary described in section 2 of this report, particularly the requirement to include a margin of 0.25% in the discount rate used to perform the going concern valuation and the University's decisions in regards to determining the going-concern and solvency funding requirements.

- A copy of the official plan documents and of all amendments made up to July 1, 2014 was provided to the actuary and is reflected appropriately in the summary of plan provisions contained herein.

- The asset information summarized in Appendix B is reflective of the Plan's assets.

- The membership data provided to the actuary included a complete and accurate description of every person who is entitled to benefits under the terms of the Plan for service up to July 1, 2014.

- All events subsequent to July 1, 2014 that may have an impact on the Plan have been communicated to the actuary.

MARCH 31, 2015
Date

Signed

SANDRA AVERSA
Name

MERCER

Mercer (Canada) Limited
161 Bay Street, P.O. Box 501
Toronto, Ontario M5J 2S5
+1 416 868 2000

MARSH & McLENNAN COMPANIES