Pension Plan for Members of CUPE Local 1001

Actuarial Valuation as at July 1, 2011

Actuarial Valuation Results as at July 1st, 2011

Actuarial Valuation

Establishes plan position on a going-concern basis

- Premise is that plan continues to exist indefinitely
- Actuary uses long-term assumptions as to how the future will unfold

Establishes plan position on a solvency basis

- A stress test imposed by regulators
- Premise is that plan is terminated as at the valuation date
- Assumptions are prescribed and tied to market conditions

Establishes contribution requirements

- “Current service cost”: cost of benefit earned in the coming year
- Going-concern deficit amortization payments, if any
- Solvency deficit amortization payments, if any

Actuarial Valuation Process

Membership Data

Going-concern Valuation

- Assumptions
- Financial position

Solvency Valuation

- Assumptions
- Financial position

Contribution Requirements

Actuarial Valuation Report

Membership Data - Active Employees

	July 1, 2008	July 1, 2011
Number	154	164
Average Age	45.0	46.6
Average Service	10.7	11.5
Average Salary	$44,081	$44,946

Membership Data - Inactive Employees

	July 1, 2008	July 1, 2011
Retirees		
Number	114	111
Average Age	74.4	76.2
Average Annual Pension*	$9,230	$9,580
Deferred		
Number	9	7
Average Age	39.2	40.8
Average Annual Pension	$3,579	$2,783

* Excluding bridge pension

Going-concern Valuation

Going-concern Valuation Actuarial Assumptions

Economic

	July 1, 2008	July 1, 2011
Return on assets	6.0%	6.0%
Salary scale	4.0%	3.5%
YMPE scale	3.5%	3.0%
Inflation	2.5%	2.5%
Expenses	$85,000	$100,000
	Per year for administration expenses added to annual contribution recommendation. Interest assumption is net of investment management charges.	

Going-concern Valuation Actuarial Assumptions

Demographic

	July 1, 2008	July 1, 2011
Mortality table	UP94 table projected to 2015 using Scale “AA”	UP94 table, fully generational projection
Retirement age	64	64
Withdrawal rates	None	None
Disability rates	None	None

Going-concern Valuation – Financial Position as at July 1, 2008

ASSETS		LIABILITIES	
Market value of assets	$20,813,600	Active members	$8,779,900
		Deferred members	173,900
		Pensioners	10,705,000
		Contribution reserve	402,500
Total Assets	**$20,813,600**	**Total Liabilities**	**$20,061,300**
FUNDING SURPLUS: $ 752,300			

Going-concern Valuation – Financial Position as at July 1, 2011

ASSETS		LIABILITIES	
Market value of assets	$20,733,100	Active members	$9,963,400
Accounts Payable	(20,900)	Deferred members	101,900
		Pensioners	10,175,600
		Contribution reserve	422,200
Total Assets	**$20,712,200**	**Total Liabilities**	**$20,663,100**
FUNDING SURPLUS: $ 49,100			

Going-concern Valuation – Evolution of assets

- Investment returns (vs. assumption of 6.0%)

Year	2007-08	2008-09	2009-10	2010-11
Return	(6.6%)	(8.4%)	8.4%	14.3%
Gain/(Loss)	-$2.9M	-$3.0M	+$253K	+$1.4M

- Post-retirement increases are the lesser of:
  - 50% of increase in CPI
  - 50% of excess of 4-year average fund return over 6%
- 4-year average rate of return: 1.5%
  - Therefore, no post-retirement increase granted
- 3-year average rate of return: 4.3%

Solvency Valuation

Solvency Valuation - Actuarial Assumptions

Valuation date	**July 1, 2008**	**July 1, 2011**
Asset Valuation Method	Market value	Market value
Economic Assumptions		
Discount Rates		
	First 10 years / Thereafter	First 10 years / Thereafter
- commuted value rate	4.0% / 5.0%	3.6% / 4.9%
- annuity purchase rate	4.5%	4.2%
Wind-up Expenses	$100,000	$100,000
Demographic Assumptions		
Mortality Table	UP 1994 projected to year 2015 using Scale AA	UP 1994 fully generational using Scale AA

Solvency Valuation – Financial Position as at July 1, 2008

ASSETS		LIABILITIES	
Market value of assets	$20,813,600	Active members	$7,833,100
Wind-up expenses	(100,000)	Deferred members	258,500
		Pensioners	12,023,800
Total Assets	**$20,713,600**	**Total Liabilities**	**$20,115,400**
SOLVENCY EXCESS / (DEFICIENCY): $ 598,200			

Solvency ratio: 100%

Solvency Valuation – Financial Position as at July 1, 2011

ASSETS		LIABILITIES	
Market value of assets	$20,733,100	Active members	$10,632,100
Accounts Payable	(20,900)	Deferred members	146,900
Wind-up expenses	(100,000)	Pensioners	11,848,700
Total Assets	**$20,612,200**	**Total Liabilities**	**$22,627,700**
SOLVENCY EXCESS / (DEFICIENCY): ($ 2,015,500)			

Solvency ratio: 91.5%

Solvency - Options

FSCO allows smoothing, on both assets and interest rates

Using a 5-year smoothing method changes solvency position for reporting purposes

It doesn't change the actual situation but defers its consequences

Once introduced, regulators will expect the method to continue to be used in future valuations

Solvency – Asset smoothing

- Investment returns (vs. assumption of 6.0%)

Year	2007-08	2008-09	2009-10	2010-11
Return	(6.6%)	(8.4%)	8.4%	14.3%
Gain/(Loss)	-$2.9M	-$3.0M	+$253K	+$1.4M
Defer	1/5th	2/5th	3/5th	4/5th
Deferral	+$590K	+$1.2M	-$152K	-$1.1M

- Total asset adjustment using 5-year smoothing: +$513K
- Deferred gains and losses are eventually recognized

Solvency – Interest rate smoothing

Date	Commuted values rates		Annuity purchase rates
	First 10 years	Thereafter	
July 2011	3.6%	4.9%	4.2%
July 2010	3.7%	5.1%	4.3%
July 2009	3.8%	5.8%	5.0%
July 2008	4.0%	5.0%	4.5%
July 2007	5.0%	5.0%	5.0%
5-year average	**4.0%**	**5.2%**	**4.6%**

- Evaluating solvency liabilities using 5-year average rates lowers them by $594K vs. using July 2011 rates

Solvency Valuation - Actuarial Assumptions

Valuation date	**July 1, 2011**	**July 1, 2011**
Asset Valuation Method	Market value	5-year smoothing of gains and losses
Economic Assumptions		
Discount Rates		
	First 10 years / Thereafter	First 10 years / Thereafter
- commuted value rate	3.6% / 4.9%	4.0% / 5.2%
- annuity purchase rate	4.2%	4.6%
Wind-up Expenses	$100,000	$100,000
Demographic Assumptions		
Mortality Table	UP 1994 fully generational using Scale AA	UP 1994 fully generational using Scale AA

Solvency Valuation – Financial Position as at July 1, 2011
USING 5-YEAR SMOOTHING

ASSETS		LIABILITIES	
Market value of assets	$20,733,100	Active members	$10,604,800
Accounts Payable	(20,900)	Deferred members	132,800
Wind-up expenses	(100,000)	Pensioners	11,296,300
Asset adjustment	513,300		
Total Assets	**$21,125,500**	**Total Liabilities**	**$22,033,900**
SOLVENCY EXCESS / (DEFICIENCY): ($ 908,400)			

Solvency ratio: 91.5% (unaffected by smoothing)

Contributions

Current service cost for 2011-12

	$	% of payroll
Total	$652,600	10.81%
Required contributions		
Employee	$263,500	4.37%
Employer	$263,500	4.37%
	$527,000	8.74%
Contribution margin	$125,600	2.07%

Over 3 year period from July 1, 2011 to June 30, 2014, margin amounts to $422,200, therefore contribution reserve established for this amount

Minimum Funding Requirements / Available Relief Measures

In addition to current service cost, special payments are required to amortize the solvency deficiency

Normally must be amortized over period not exceeding 5 years: $202,000 per year for 5 years

However, Ontario legislation allows sponsors to make use of temporary solvency funding relief measures:

- May delay amortization by 1 year (e.g. start from July 1, 2012)
- May amortize over 10-year period: $111,900 per year
  - Must notify members and former members, provide objection form
  - Option is not available if more than 1/3 of either group objects
  - There is a continuing disclosure obligation (annual progress report)

How to bridge the gap?

Minimum solvency special payment	$111,900 (1.85% of expected payroll)
Expected* employee contribution (4.2%/6%)	$297,100
Expected* employee contribution (flat 6% rate)	$408,400
*(based on most recent payroll data, greater membership)	
Additional contributions if rate is changed to 6%	$111,300

How to bridge the gap?

Employee contribution increase to flat 6% would suffice, for now

- Contribution reserve will cover next 3 years only
- Next valuation may not reveal a funding surplus; in case of deficit, additional amortization payments would be required

If contributions are not increased, the only remedy is a benefit reduction

- Regulator cannot impose a contribution increase, but can force a benefit reduction (accrued and/or future)
- Difficult to maintain intergenerational equity

Would the University consider matching contribution increase?

Looking forward

Bringing contribution rate to a flat 6% for both employees and employer would make present accrual rates more sustainable

- Funding current service cost is 10.81%
- Present contribution rates only add up to 8.74%
- Combined 12% would restore balance between contributions and cost of new benefits earned
- Buffer could help rebuild a cushion for adverse deviations (typically a sound objective for plans like yours)

Negotiations with University are advisable

We can help, though additonal fees will apply for non-recurrent work

Actuarial Valuation Report

Actuarial Valuation Report

Must be filed no later than March 31, 2012

The next Actuarial Valuation will be no later than as at July 1, 2014, since the solvency ratio is above 85%

You are allowed to file another valuation earlier if you choose

Questions?