9 June 2010

Special Forces Pension Plan

Report on the Actuarial Valuation for Funding Purposes as at December 31, 2008

MERCER

MARSH MERCER KROLL
GUY CARPENTER OLIVER WYMAN

Canada Revenue Agency Registration Number: 0584375

Consulting. Outsourcing. Investments.

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Summary of Results

($000,000's)

Going-Concern Financial Position, Minimum Indexing for Post-2000 Service	31.12.2008	31.12.2006
Actuarial value of assets	$1,321.6	$1,375.3
Actuarial liability	$1,777.6	$1,478.8
Funding excess (unfunded liability)	($456.0)	($103.5)
Funded ratio	74.3%	93.0%
Gong-Concern Financial Position, Indexing at 30% of CPI for Post-2000 Service	**31.12.2008**	**31.12.2006**
Actuarial value of assets	$1,321.6	N/A
Actuarial liability	$1,797.9	N/A
Funding excess (unfunded liability)	($476.3)	N/A
Funded ratio	73.5%	N/A
Solvency Financial Position[1]	**31.12.2008**	**31.12.2006**
Solvency assets	$1,202.0	$1,468.5
Solvency liability	$1,941.2	$1,872.9
Solvency excess (deficiency)	($739.2)	($404.4)
Solvency ratio	61.9%	78.4%

[1] Note that in respect of pre-1992 service, the Government of Alberta has an obligation to fund a portion of the unfunded liability. Their share is being funded by contributions of 1.25% of payroll each year. The present value of these future contributions has not been included as an asset in this financial summary.

Summary of Results (cont'd.)

($000,000's)

Minimum Funding Requirements, Based on COLA for Post-2000 Service at 30% of CPI	**2009**	**2007**
Current service cost expressed as a percentage of pensionable earnings in following year		
Basic Current Service Cost plus expenses	18.28%	16.48%
COLA	1.50%	1.50%
Total	19.78%	17.98%
Pre-1992 Unfunded Liability Contributions	2.75%	2.75%
Post-1991 Unfunded Liability Contributions	6.72%	0.20%
Total Contributions	29.25%	20.93%

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Introduction

Report on the Actuarial Valuation as at December 31, 2008

To the Special Forces Pension Board

At your request, we have conducted an actuarial valuation of the Special Forces Pension Plan (the "SFPP" or the "Plan") as at December 31, 2008. We are pleased to present the results of the valuation.

The purpose of this valuation is to determine:

- the funded status of the plan as at December 31, 2008 on going-concern, solvency and wind-up bases; and

- the range of permissible funding contributions pursuant to the *Public Sector Pension Plans Act* for years 2009 and on.

The information contained in this report was prepared for the Special Forces Pension Board and Alberta Finance and Enterprise for their internal use and for filing with the Canada Revenue Agency, in connection with our actuarial valuation of the plan. This report is not intended or necessarily suitable for other purposes.

The previous valuation of the plan for similar purposes was prepared by Hewitt Associates as of December 31, 2006.

The next actuarial valuation of the plan will be required as at a date not later than December 31, 2011 or as at the date of an earlier amendment to the plan, in accordance with the minimum requirements of the *Public Sector Pension Plans Act*.

This valuation reflects the provisions of the plan as at December 31, 2008. A summary of the plan provisions is provided in Appendix D.

Pursuant to the *Public Sector Pension Plans Act*, the Special Forces Pension Plan is exempt from funding solvency deficiencies.

We have used the same going-concern valuation assumptions and methods as were used for the valuation as at December 31, 2006 except for the following changes:

- The discount rate has been lowered to 6.30% from 6.50% in the last valuation.

- Alberta CPI is assumed to increase at 2.30% per annum. The previous valuation assumed increases of 2.50% per annum.

- Canada CPI is assumed to increase at 2.00% per annum. The previous valuation assumed increases of 2.50% per annum.

- The Year's Maximum Pensionable Earnings (YMPE) is assumed to increase at 2.50% per annum. The previous valuation assumed increases of 3.00% per annum.

- The Income Tax Act maximum pension limit is assumed to increase at 2.50% per annum starting in 2010. The previous valuation assumed increases of 3.00% per annum starting in 2010.

- Pensionable earnings are assumed to grow at 5.00% per annum for 3 years following the valuation date and 3.00% per annum thereafter, plus age-based merit and promotion. The previous valuation assumed 3.90% in 2007, 4.40% in 2008, and 3.00% per annum thereafter, plus age-based merit and promotion.

- The mortality decrement table has been changed to the 1994 Uninsured Pensioners mortality table with generational mortality improvements. The previous valuation assumed mortality in accordance with the 1994 Uninsured Pensioners mortality table with mortality improvements to 2007.

The net impact of the assumption changes is an increase in liability of $99.4 million and 1.80% of pay in the total current service cost. The assumptions are described in detail in Appendix B.

All assumptions made for the purposes of the valuation were independently reasonable at the time the valuation was prepared.

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

A new Canadian Institute of Actuaries Standard of Practice for determining pension commuted values (“CIA Standard”) became effective on April 1, 2009. The new CIA Standard changes the assumptions to be used to value the solvency and wind-up liabilities for benefits assumed to be settled through a lump sum transfer. Alberta Finance and Enterprise permits the use of the new CIA Standard. The financial impact of the new CIA Standard has been reflected in this actuarial valuation. Recent guidance from the Canadian Institute of Actuaries has indicated that the purchase price of group annuities in the Canadian insurance market has increased since December 31, 2008. This will increase solvency liabilities compared to the numbers stated within this report.

Since the valuation date there have been significant fluctuations in the financial markets. We have reflected the financial position of the plan as of the valuation date, and have not taken into account any experience after the valuation date.

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

It is my understanding that this report will be filed with the Canada Revenue Agency.

This report has been prepared, and my opinion given, in accordance with accepted actuarial practice in Canada. It has also been prepared in accordance with the funding standards set by the *Public Sector Pension Plans Act*.

Respectfully submitted,

<original signed>

Brenda Prysko
FSA, FCIA

9 June 2010

Special Forces Pension Plan

Registration number with the Canada Revenue Agency: 0584375

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

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

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

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Financial Position of the Plan

Valuation Results – Going-Concern Basis

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

Within the Plan, cost-of-living adjustments (“COLA” or “indexing”) are made on a contractual basis at 60% of Alberta CPI for pre-2001 service. Indexing for service after 2000 is set based on Board policy and financial affordability.

Members and employers currently contribute 1.5% of covered pay (0.75% of covered pay each) towards indexing for post-2000 service. These contributions, together with accumulated capital appreciation (depreciation) and other investment income, are deposited in the Indexing Fund of the Plan and ultimately used to provide indexing in respect of benefits for post-2000 service.

Since the value of the Indexing Fund must ultimately be used to provide indexing under the Plan terms, the Board must hold a minimum COLA liability on the Plan’s balance sheet for post-2000 service equal to the value of the Indexing Fund.

The Income Tax Act and associated Regulations prescribe the maximum level of indexing that the Board may grant for post-2000 service. Currently, this maximum is set at 100% of CPI. The Board, therefore, may not establish balance sheet liabilities or contribution rates that include indexing at a level higher than 100% of Alberta CPI.

Within these boundaries (the minimum and maximum indexing as outlined in the preceding two paragraphs), the Board may establish the rate of indexing for post-2000 service, provided that the Plan continues to meet the minimum funding requirements of the Alberta *Employment Pension Plans Act*. The Board is currently consulting with stakeholders regarding the long term targeted level of COLA to be established for post-2000 service.

In this report, the financial position of the Plan has been illustrated under the following three scenarios:

1. Minimum indexing based on the value of the Indexing Fund and current service contributions towards COLA;

2. Maximum indexing based on the limits imposed under the Income Tax Act; and

3. Indexing based on 30% of Alberta CPI, which is the approximate level of indexing supported by the 1.5% current service contribution towards COLA (ignoring any unfunded liabilities relating to indexing for post-2000 service).

Financial Position – Minimum Indexing

The results of the valuation as at December 31, 2008, in comparison with those of the previous valuation as at December 31, 2006, are summarized as follows:

Financial Position – Going-Concern Basis ($000,000's)
Minimum Indexing for Post-2000 Service Based on Value of Indexing Fund

	31.12.2008	31.12.2006
Actuarial value of assets		
Adjusted market value – Main Fund	$1,187.9	$1,459.1
Smoothing adjustment	$118.8	($93.6)
Total actuarial value of assets – Main Fund	$1,306.7	$1,365.5
Market value – Indexing Fund	$14.9	$9.8
Total actuarial value of assets	$1,321.6	$1,375.3
Actuarial liability		
Present value of accrued benefits for:		
▪ Active members	$759.0	$632.1
▪ Pensioners and survivors	$997.4	$831.5
▪ Deferred pensioners and hold-on-deposits	$6.3	$5.4
▪ Indexing for post-2000 service	$14.9	$9.8
Total liability	$1,777.6	$1,478.8
Funding excess (unfunded liability)	($456.0)	($103.5)
Funded ratio	74.3%	93.0%

Due to the nature of the financing arrangement for the unfunded liability in respect of pre-1992 service, it is necessary to track the financial status of the plan for service before and after January 1, 1992. The following table summarizes this split.

Minimum Indexing for Post-2000 Service Based on Value of Indexing Fund

	As at December 31, 2008 ($000,000's)		
	Pre-1992	Post-1991	Total
Actuarial value of assets			
Adjusted market value – Main Fund	$554.0	$633.9	$1,187.9
Smoothing adjustment	$55.4	$63.4	$118.8
Total actuarial value of assets – Main Fund	$609.4	$697.3	$1,306.7
Market value – Indexing Fund	$0.0	$14.9	$14.9
Total actuarial value of assets	$609.4	$712.2	$1,321.6
Actuarial liability			
Present value of accrued benefits for:			
▪ Active members	$162.4	$596.6	$759.0
▪ Pensioners and survivors	$695.5	$301.9	$997.4
▪ Deferred pensioners and hold-on-deposits	$1.6	$4.7	$6.3
▪ Indexing for post-2000 service	$0.0	$14.9	$14.9
Total liability	$859.5	$918.1	$1,777.6
Funding excess (unfunded liability)	($250.1)	($205.9)	($456.0)
Funded ratio	70.9%	77.6%	74.3%
Government share of unfunded liability	$164.7	$0.0	$164.7
Employer and member share of unfunded liability	$85.4	$205.9	$291.3

Financial Position – Maximum Indexing

The financial position of the Plan reflecting the maximum level of indexing for post-2000 service that is permitted under the Income Tax Act is as follows:

Maximum Indexing For Post-2000 Service Based on 100% of Alberta CPI

	As at December 31, 2008 ($000,000's)		
	Pre-1992	Post-1991	Total
Actuarial value of assets			
Adjusted market value – Main Fund	$554.0	$633.9	$1,187.9
Smoothing adjustment	$55.4	$63.4	$118.8
Total actuarial value of assets – Main Fund	$609.4	$697.3	$1,306.7
Market value – Indexing Fund	$0.0	$14.9	$14.9
Total actuarial value of assets	$609.4	$712.2	$1,321.6
Actuarial liability			
Present value of accrued benefits for:			
▪ Active members	$162.4	$704.4	$866.8
▪ Pensioners and survivors	$695.5	$323.9	$1,019.4
▪ Deferred pensioners and hold-on-deposits	$1.6	$6.2	$7.8
Total liability, inclusive of COLA	$859.5	$1,034.5	$1,894.0
Funding excess (unfunded liability)	($250.1)	($322.3)	($572.4)

Financial Position – Indexing at 30% of CPI

The financial position of the Plan reflecting indexing for post-2000 service at 30% of Alberta CPI is as follows.

Indexing For Post-2000 Service Based on 30% of Alberta CPI

	As at December 31, 2008 ($000,000's)		
	Pre-1992	Post-1991	Total
Actuarial value of assets			
Adjusted market value – Main Fund	$554.0	$633.9	$1,187.9
Smoothing adjustment	$55.4	$63.4	$118.8
Total actuarial value of assets – Main Fund	$609.4	$697.3	$1,306.7
Market value – Indexing Fund	$0.0	$14.9	$14.9
Total actuarial value of assets	$609.4	$712.2	$1,321.6
Actuarial liability			
Present value of accrued benefits for:			
▪ Active members	$162.4	$625.5	$787.9
▪ Pensioners and survivors	$695.5	$307.8	$1,003.3
▪ Deferred pensioners and hold-on-deposits	$1.6	$5.1	$6.7
Total liability, inclusive of COLA	$859.5	$938.4	$1,797.9
Funding excess (unfunded liability)	($250.1)	($226.2)	($476.3)
Funded ratio	70.9%	75.9%	73.5%
Government share of unfunded liability	$164.7	$0.0	$164.7
Employer and member share of unfunded liability	$85.4	$226.2	$311.6

Reconciliation of Financial Position

The plan's financial position as at December 31, 2008, an unfunded liability of $456.0 million on a minimum indexing basis, is reconciled with its previous position, an unfunded liability of $103.5 million as at December 31, 2006, as follows:

Reconciliation of Financial Position ($000,000's)

	Total
Unfunded liability as at 12.31.2006	($103.5)
Expected interest on unfunded liability at 6.50%	($13.9)
Net experience gains (losses) over 2007 – 2008	($255.3)
Contributions more than the cost of benefits	$4.2
Total special payments to eliminate the unfunded liability	$20.0
Impact of assumption changes[2]	($99.4)
Methodology changes	($0.9)
Data corrections and net impact of other elements of gains and losses	($7.2)
Unfunded liability as at 12.31.2008	($456.0)

* Net experience gains (losses) are detailed below.

Plan Experience

The net experience gains (losses) over 2007 - 2008 are detailed as follows:

Plan Experience ($000,000's)

	Assumption	Actual 2007 - 2008	Impact – Gain (Loss)
Net investment return (on actuarial value of assets)	6.50%/year	-0.88%/year	($200.1)
Increases in pensionable earnings	4.89%/year	10.69%/year	($36.1)
Increases in YMPE	3.00%/year	2.93%/year	
Indexation of pensions in payment	1.50%/year	2.55%/year	($18.3)
Retirements	247 rets	244 rets	($5.5)
Terminations of employment	31 terms	102 terms	$2.9
Mortality	56 deaths	54 deaths	$1.8
Net experience gains (losses)			($255.3)

[2] The change in demographic assumptions resulted in a loss of $36.6 million and the change in economic assumptions resulted in a loss of $62.8 million.

Commentary

- The investment return net of expenses of -0.88% over 2007 and 2008 on the actuarial value of assets was lower than the valuation assumption of 6.50% per annum. This lower investment return produced a loss of approximately $200.1 million. Note that the rate of return on the market value of assets over this period was -8.45%. The smoothing methodology defers recognition of a portion of the 2007 losses to the 2009 calendar year, and a portion of 2008 losses to the 2009 and 2010 calendar years.

- The actual average increase in pensionable earnings over 2007-2008 was 10.69%/year. The expected increase in pensionable earnings over this same period was 4.89%/year. In combination with the actual YMPE being slightly lower than expected, this unexpected earnings growth produced a loss of $36.1 million.

- The valuation at December 31, 2006 assumed a cost-of-living increase of 1.50%/year on pre-2001 service. The actual cost-of-living increase was an average of 2.55% over the inter-valuation period (2.94% at January 1, 2008 and 2.16% at January 1, 2009). The higher than expected cost-of-living increase produced a loss of approximately $18.3 million.

- Retirement experience was less favourable than assumed, producing a net experience loss of approximately $5.5 million.

- Termination and mortality experience was more favourable than assumed, producing a net experience gain of approximately $4.7 million.

- Member and employer current service contribution rates were higher than the required normal actuarial cost. The gain due to greater than expected contributions was approximately $4.2 million.

- Member, employer and government special payments to eliminate the existing unfunded liability produced a gain of $20.0 million.

- The valuation reflects a number of assumption changes, detailed in Appendix B. The net impact of all assumption changes is an increase in the liabilities of the Plan of $99.4 million.

- Changes in methodology from the methods employed by Hewitt Associates in the last valuation resulted in an increase in the actuarial liabilities of $0.9 million.

- With a plan of this size, data changes between each valuation period are inevitable. At December 31, 2008, these data changes resulted in an increase in the actuarial liabilities of approximately $6.0 million. The net impact of other elements of gains and losses is a loss of $1.2 million.

The above commentary outlines the major components of the gain and loss analysis. All other experience items such as timing of events are combined into the “Net impact of other elements of gains and losses” item.

Valuation Results – Solvency Basis

In accordance with the *Public Sector Pension Plans Act,* the Special Forces Pension Plan is not subject to the solvency funding requirements outlined in Alberta's *Employment Pension Plans Act*. The Plan is required to disclose the solvency excess or deficiency, but no solvency special payments are required to fund any solvency deficiency that may arise.

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

We have included the value of all benefits that may be contingent upon the circumstances of the postulated plan wind-up. Indexing for post-2000 service is based solely on the level of indexing that could be provided by the market value of the Indexing Fund on the assumed date of wind-up.

As at December 31, 2008, the solvency ratio of the plan, being the ratio of solvency assets to solvency liabilities, is 61.9%. The plan's solvency position as at December 31, 2008, in comparison with that of the previous valuation as at December 31, 2006, is determined as follows:

Financial Position – Solvency Basis ($000,000's)

	31.12.2008	31.12.2006
Assets		
Actuarial value of assets		
Adjusted market value – Main Fund	$1,187.9	$1,459.1
Wind-up expenses	($0.8)	($0.4)
Market value – Indexing Fund	$14.9	$9.8
Total actuarial value of assets	$1,202.0	$1,468.5
Liabilities		
Actives	$729.4	$768.8
Pensioners and survivors	$1,189.3	$1,086.7
Deferred pensioners and hold-on-deposits	$7.6	$7.6
Indexing for post-2000 service	$14.9	$9.8
Total liability	$1,941.2	$1,872.9
Solvency surplus (deficiency)	($739.2)	($404.4)
Solvency ratio	61.9%	78.4%

The financial position as at December 31, 2008 on a solvency basis split for service pre and post January 1, 1992 is as follows:

Financial Position – Solvency Basis ($000,000's)

	December 31, 2008		
	Pre-1992	Post-1991	Total
Assets			
Adjusted market value – Main Fund	$554.0	$633.9	$1,187.9
Wind-up expenses	($0.4)	($0.4)	($0.8)
Market value – Indexing Fund	$0.0	$14.9	$14.9
Actuarial value of assets	$553.6	$648.4	$1,202.0
Liabilities			
Actives	$191.2	$538.2	$729.4
Pensioners and survivors	$827.0	$362.3	$1,189.3
Deferred pensioners and hold-on-deposits	$1.8	$5.8	$7.6
Indexing fund for post-2000 service	$0.0	$14.9	$14.9
Total	$1,020.0	$921.2	$1,941.2
Solvency surplus (deficiency)	($466.4)	($272.8)	($739.2)
Solvency ratio	54.3%	70.4%	61.9%

Impact of Plan Wind Up

In my opinion, the value of the plan's assets would be less than its actuarial liabilities if the plan were to be wound up on the valuation date.

Specifically, actuarial liabilities would exceed the market value of plan assets by $739.2 million. This calculation includes a provision of $0.8 million for termination expenses that might be payable from the pension fund if the plan were wound up.

Part of this deficiency would be shared by the Government of Alberta in respect of pre-1992 service.

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Funding Requirements

Contribution Requirements

Contributions into the Special Forces Pension Plan are governed by two different Acts: the *Public Sector Pension Plans Act* which establishes minimum funding standards and the Federal *Income Tax Act* which establishes maximum funding standards. Under the *Public Sector Pension Plans Act*, minimum funding for post-1991 service must be made in accordance with the Alberta *Employment Pension Plans Act* with respect to current service as well as post-1991 past service unfunded liabilities.

- Payments to eliminate the pre-1992 unfunded liability are scheduled in the *Public Sector Pension Plans Act* with the Government of Alberta contributing 1.25% of covered pay and contributing members and employers contributing 0.75% of pay each until December 31, 2036.

- Subject to Sections 4 and 5 of Schedule 4 of the *Public Sector Pension Plans Act,* the Board has authority to set contribution rates for current service and unfunded liability payments for post-1991 service, as well as to determine cost-of-living adjustment ("COLA") benefits and contributions for post-1991 service.

- Pursuant to Section 5 of Schedule 4 of the *Public Sector Pension Plans Act,* current service contributions are established in respect of pension benefits that will accrue in calendar years after the valuation (2009 forward). They are jointly funded by contributing members and employers, with employers contributing 1.1% of pay higher than members.

- Pursuant to Section 5 of Schedule 4 of the *Public Sector Pension Plans Act,* and also pursuant to the *Employment Pension Plans Act,* unfunded liabilities with respect to post-1991 service must be eliminated by special payments over a period of no more than 15 years. Post-1991 special payments are shared equally between contributing members and employers.

- Pursuant to Section 4 of Schedule 5 of the *Public Sector Pension Plans Act,* the level of COLA benefits for post-1991 service and the corresponding contributions for that COLA are determined by the Board. The *Income Tax Act* limits the level of COLA to 100% of CPI for post-1991 service. COLA contributions are shared equally between contributing members and employers.

Current Service Cost

The estimated value of the benefits that will accrue on behalf of the active members during 2009, in comparison with the corresponding value determined in the previous valuation as at December 31, 2006, is summarized below:

Current Service Cost ($000,000's)

	2009	2007[3]
Basic Current Service Cost	$53.8	$38.3
Cost of Living Adjustments (30% of CPI)	$4.5	$3.6
Estimated administrative expenses	$1.2	$1.2
Total member and employer Current Service Cost	$59.5	$43.1
Pensionable earnings in following year	$301.4	$239.7
Current service cost expressed as a percentage of pensionable earnings in following year		
Basic Current Service Cost plus expenses	18.28%	16.48%
COLA	1.50%	1.50%
Total	19.78%	17.98%

Pensionable earnings for 2009 only include covered earnings for members who have less than 35 years of service and who are accruing pensionable service under the plan.

An analysis of the changes in the basic current service cost follows:

Changes in Basic Current Service Cost

Basic Current Service Cost as at 31.12.2006	16.48%
Changes in demographic assumptions	0.37%
Changes in economic assumptions	1.43%
Methodology changes	0.48%
Demographic changes	(0.48%)
Basic Current Service Cost as at 31.12.2008	18.28%

[3] Components of the current service from the previous valuation prepared by Hewitt have been modified to include the COLA contributions explicitly, to outline explicitly the administrative expenses assumed, and to use the same methodology for covered pay as in the 2008 valuation.

Additional Contributions Related to Pre-1992 Service

The plan's unfunded liability for service prior to January 1, 1992 is targeted to be eliminated on or before December 31, 2036 through the payment of additional contributions by members, employers, and the Government of Alberta. The additional contributions are split between the three parties, as follows:

	Percent of Pensionable Earnings
Government	1.25% of pensionable earnings
Members	0.75% of pensionable earnings
Employers	0.75% of pensionable earnings
Total	2.75% of pensionable earnings

As at December 31, 2008, the pre-1992 unfunded liability is $250.1 million. The legislated contributions in respect of the pre-1992 unfunded liability have an actuarial present value as at December 31, 2008 as follows:

Additional Annual Contributions ($000,000's)

	Percentage of Pensionable Earnings	Annual Dollar Amount	Present Value of Future Additional Contributions	Last Payment
Government contributions	1.25%	$3.8	$71.2	Dec. 31, 2036
Member contributions	0.75%	$2.3	$42.7	Dec. 31, 2036
Employer contributions	0.75%	$2.3	$42.7	Dec. 31, 2036
Total contributions	2.75%	$8.4	$156.6	

The total present value of future additional contributions of $156.6 million is less than the pre-1992 unfunded liability of $250.1 million as at December 31, 2008. As a result, current contribution levels are insufficient to eliminate the pre-1992 unfunded liability by December 31, 2036.

Unfunded Liability Special Payments Related to Post-1991 Service

Special payments made by members and employers during the period 2007 and 2008 were sufficient to eliminate the unfunded liability that existed for post-1991 service in the previous valuation at December 31, 2006. Any unfunded liability that has emerged in this valuation at December 31, 2008 must therefore be eliminated over a period not exceeding 15 years.

The following table outlines the minimum special payments that must be made to the plan to eliminate the post-1991 unfunded liability as at December 31, 2008:

Minimum Post-1991 Annual Special Payments ($000,000's)

	Date Established	Percentage of Pensionable Earnings	Annual Dollar Amount	Present Value of Future Special Payments	Last Payment
Member	Dec 31, 2008	3.07%	$9.2	$103.0	Dec 31, 2023
Employer	Dec 31, 2008	3.07%	$9.2	$103.0	Dec 31, 2023
Total special payments		6.14%	$18.4	$206.0	

The Board intends to grant cost-of-living-adjustments in respect of post-2000 service at a level that is 30% of CPI or higher. The inclusion of 30% of CPI COLA in respect of service earned between January 1, 2001 and December 31, 2008 increases the unfunded liability for post-1991 service. The Board has adopted unfunded liability contribution rates that are scheduled to eliminate the unfunded liability for post-1991 service inclusive of COLA at 30% of CPI.

The following table outlines the special payments that must be made to the plan to eliminate the post-1991 unfunded liability as at December 31, 2008, inclusive of COLA at 30% of CPI:

Post- 1991 Annual Special Payments ($000,000's)

	Date Established	Percentage of Pensionable Earnings	Annual Dollar Amount	Present Value of Future Special Payments	Last Payment
Member	Dec 31, 2008	3.36%	$10.1	$113.1	Dec 31, 2023
Employer	Dec 31, 2008	3.36%	$10.1	$113.1	Dec 31, 2023
Total special payments		6.72%	$20.2	$226.2	

The special payment schedule determined as at December 31, 2008, is calculated on the assumption that contributions commence on July 1, 2010 and are amortized over 13.5 years. The percentage of pensionable earnings is calculated as a level percentage of pay through to the last payment date, assuming pensionable earnings grow at 5.00% per year for 3 years after the valuation date and 3.00% thereafter (the assumed base earnings increase excluding merit and promotion).

Solvency Contributions

In accordance with the *Public Sector Pension Plans Act*, the Plan is not subject to the solvency funding of the Alberta *Employment Pension Plans Act*.

Total Contributions

Under the *Income Tax Act*, the total contribution must be no more than (i) the current service cost[4], plus (ii) where an unfunded actuarial liability exists, the amount of the unfunded actuarial liability, less (iii) where there is a funding excess, the amount of the funding excess which exceeds a prescribed level.

The following table outlines the range of funding contributions that would be permitted under the *Income Tax Act*, and the *Public Sector Pension Plans Act* based on the valuation at December 31, 2008 for the period to December 31, 2011:

	Minimum Required Under the *Public Sector Pension Plans Act*	Maximum Permitted Under the *Income Tax Act*
Current service cost	19.78%	23.93%
Pre-1992 unfunded liability	2.75%	2.75%
Post-1991 unfunded liability	6.14%	37.76%
Total contributions	28.67%	64.44%

The minimum contributions reflect the currently legislated COLA contributions of 1.5% of pay for service after December 31, 2008. The maximum contributions pursuant to the *Income Tax Act* reflect the maximum level of indexing that is permitted in respect of post-2000 service (100% of CPI).

Based on the results of the valuation, the Board has adopted a total contribution rate of 29.25% effective July 1, 2010.

[4] Including COLA contributions.

The new contribution rates for members and employers effective July 1, 2010 are shown in the following table.

	Member	Employer	Total
Current service contributions			
Basic Benefit	8.59%	9.69%	18.28%
COLA at 30% of CPI	0.75%	0.75%	1.50%
Pre-1992 unfunded liability additional contributions	0.75%	0.75%	1.50%
Post-1991 unfunded liability special payments	3.36%	3.36%	6.72%
Total contributions	13.45%	14.55%	28.00%

In addition, the Government will contribute 1.25% of pay towards the pre-1992 unfunded liability.

5

Actuarial Opinion

With Respect to the Actuarial Valuation as at December 31, 2008

of the Special Forces Pension Plan

Canada Revenue Agency Number: 0584375

The most recent valuation of the Special Forces Pension Plan was conducted as at December 31, 2008 for the purpose of providing the Special Forces Pension Board with information necessary for the funding of the pension obligations of the plan.

This actuarial valuation of the plan was conducted using membership data and financial information supplied by the Special Forces Pension Board and Alberta Pensions Services Corporation. Various tests were performed on the data to ensure validity and reasonableness of results as well as to perform a reconciliation of results since the previous valuation as at December 31, 2006. In my opinion, the data are sufficient and reliable for the purposes of the actuarial valuation.

The actuarial cost method utilized in the valuation was the Projected Unit Credit Actuarial Cost Method. The asset valuation method is based on the market value of assets with a smoothing adjustment intended to smooth out market volatility at the valuation date. Under this method, investment income is recognized immediately, but realized and unrealized capital gains and losses are recognized over a three year period. The resulting asset value is then constrained to lie between 90% and 110% of the market value of assets.

The market values and audited financial statements were provided by the Special Forces Pension Board. We have relied on this information in determining the actuarial value of assets at the valuation date.

In my opinion, the methods employed are appropriate for the purpose of the valuation.

The following table briefly summarizes the assumptions employed in the actuarial valuation for funding purposes:

Description	As at December 31, 2008
Discount rate	6.30%
Alberta CPI	2.30%
Canada CPI	2.00%
Salary escalation	5.00% for 3 years after the valuation date, 3.00% per year thereafter, plus merit and promotion scale
YMPE escalation	2.50% per year
Increase in *Income Tax Act* maximum pension limits (used to limit pensionable earnings)	2.50% per year
Interest credited on member contributions	5% per year
Merit and promotion (sample rates)	
Age 20	4.30%
Age 30	2.80%
Age 40	1.20%
Age 50	0.60%
Age 60	0.00%
Retirement rates	
Years Since Eligible to Retire*	Percentage Assumed to Retire
0	40%
1	25%
2+	15%
* A rate of 100% is assumed at age 60, in lieu of the above.	
Mortality	1994 Uninsured Pensioner (UP94) with generational mortality improvements
Termination rates (sample rates)	
Age 20	0.83%
Age 30	0.83%
Age 40	0.50%
Age 50	0.00%
Percent electing deferred pension	100%
Disability incidence	None
Proportion married at retirement or death before retirement	90%
Spousal age difference	Male member: spouse 4 years younger Female member: spouse 4 years older

Description	As at December 31, 2008
Cost-of-living increases	60% of Alberta CPI for service up to and including December 31, 2000; Based on Board policy for service after December 31, 2000
Actuarial cost method	Projected Unit Credit
Asset valuation method	Smoothed value, constrained to be between 90% and 110% of the market value of assets

In my opinion, these assumptions are, in aggregate, appropriate for the purpose of the valuation. Nonetheless, emerging experience may differ from the assumptions, and the resulting gains or losses will be revealed in future valuations.

The results of the actuarial valuation, inclusive of COLA at 30% of CPI for post 2000 service, are summarized below:

		($000,000's)	
	Pre-1992	Post-1991	Total
Actuarial value of assets	$609.4	$712.2	$1,321.6
Actuarial liabilities	$859.5	$938.4	$1,797.9
Funding excess (unfunded liability)	($250.1)	($226.2)	($476.3)

The normal cost of benefits expected to accrue in the year following the valuation date is $59.5 million or 19.78% of expected 2009 pensionable earnings

In my opinion:

- the data upon which this valuation is based are sufficient and reliable for the purposes of the valuation;
- the assumptions are, in aggregate, appropriate for the purpose of establishing the financial position of the plan;
- all assumptions made for the purposes of the valuation were independently reasonable at the time the valuation was prepared;
- the methods employed are appropriate for the purpose of establishing the financial position of the plan and the funding contribution requirements pursuant to the *Public Sector Pension Plans Act*;

- in respect of pre-1992 service, the plan would be fully funded on a going-concern basis if its assets were augmented by $250.1 million. The legislated contributions are set forth below:

Pre-1992 Legislated Annual Contributions ($000,000's)

	Percentage of Pensionable Earnings	Annual Dollar Amount (2009)	Present Value of Future Additional Contributions	Last Payment
Government contributions	1.25%	$3.8	$71.2	Dec. 31, 2036
Member contributions	0.75%	$2.3	$42.7	Dec. 31, 2036
Employer contributions	0.75%	$2.3	$42.7	Dec. 31, 2036
Total contributions	2.75%	$8.4	$156.6	

These contributions are insufficient to eliminate the pre-1992 unfunded liability by December 31, 2036;

- in respect of post-1991 service, the plan would be fully funded on a going-concern basis if its assets were augmented by $226.2 million. In order to comply with the provisions of the *Public Sector Pension Plans Act*, the unfunded liability must be liquidated by special payments at least equal to the amounts indicated and for the periods set forth below:

Annual Special Payments ($000,000's)

	Date Established	Percentage of Pensionable Earnings	Annual Dollar Amount	Present Value of Future Special Payments	Last Payment
Member	Dec 31, 2008	3.36%	$10.1	$113.1	Dec 31, 2023
Employer	Dec 31, 2008	3.36%	$10.1	$113.1	Dec 31, 2023
Total special payments		6.72%	$20.2	$226.2	

- the solvency ratio of the plan is 61.9%;
- the plan would be fully funded on a solvency basis if its assets were augmented by $739.2 million. Part of this deficiency is shared with the Government of Alberta in respect of pre-1992 service.

This report has been prepared and the opinions contained herein are given in accordance with accepted actuarial practice in Canada.

Respectfully submitted,

<original signed>

Brenda Prysko
FSA, FCIA

9 June 2010
Date

Appendix A

Plan Assets

Sources of Plan Asset Data

The pension fund is held in trust by Alberta Investment Management Corporation (on behalf of the Special Forces Pension Board and the Minister of Alberta Finance and Enterprise) and is invested in accordance with the Board's written statement of investment policies and goals.

We have relied upon the audited financial statements as reported by the Special Forces Pension Board for the period January 1, 2007 to December 31, 2008.

Reconciliation of Plan Assets

The pension fund transactions for the period from January 1, 2007 to December 31, 2008 are summarized as follows:

Reconciliation of Market Value of Assets ($000,000's)[5]

	2007	2008
January 1	$1,467.3	$1,478.5
PLUS:		
Member current service contributions[6]	$21.9	$24.6
Employer current service contributions	$24.1	$27.0
Member unfunded liability contributions	$2.9	$3.3
Employer unfunded liability contributions	$2.9	$3.3
Gov't unfunded liability contributions	$3.0	$3.4
Investment income	$59.0	$54.5
Net capital gains (losses)	($26.5)	($310.1)
Transfer of service from other plans	$0.3	$0.4
	$87.6	($193.6)
LESS:		
Pensions paid	$65.7	$72.5
Refunds and transfer payments	$5.5	$4.2
Expenses	$5.2	$5.2
	$76.4	$81.9
December 31	$1,478.5	$1,203.0

The asset value is adjusted to reflect in-transit benefit payments of $0.2 million. The resulting adjusted market value is $1,202.8 million.

We have tested the pensions paid, the lump-sum refunds 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.

5 Including the balance of the indexing fund used to provide COLA benefits. The indexing fund balance was $14.9 million as at December 31, 2008, and was $9.8 million as of January 1, 2007.

6 Current service contributions include optional service contributions.

The plan's assets are invested primarily in pooled funds, as shown below:

	($000,000's)
Fixed Income	
Deposit in the Consolidated Cash Investment Fund	$10.5
Universe Fixed Income Pool	$117.4
Canadian Long Term Government Bond Pool	$190.7
Private Mortgage Pool	$58.6
Real Rate of Return Bonds	$27.9
Currency Alpha Pool	$3.3
Fixed Income Overlay Strategy Pool	($29.9)
Tactical Asset Allocation Pool	$0.9
Total Fixed Income	$379.4
Canadian Equities	
Canadian Structured Equity Pool	$31.1
Canadian Pooled Equities Fund	$40.8
Canadian Large Cap Equity Pool	$13.7
Canadian Small Cap Equity Pool	$23.7
Canadian Equity Enhanced Index Pool	$19.9
Canadian Multi-Cap Pool	$44.0
Growing Equity Income Pool	$8.5
Private Equity Pool	-
Canadian Overlay Strategy Pool	$11.7
	$193.4
United States Equities	
US Structured Equity Pool	$135.6
US Small/Mid Cap Equity Pool	$35.0
Portable Alpha US Pool	$45.1
Growing Equity Income Pool	$0.7
US Overlay Strategy Pool	$3.6
	$220.0
Non-North American Equities	
EAFE Active Equity Pool	$172.1
Emerging Markets Equity Pool	$5.5
EAFE Structured Equity Pool	$27.4
Structured Transition Pool	$0.7
EAFE Overlay Strategy Pool	$22.7
	$228.4
Real Estate Equities	
Private Real Estate Pool	$113.6
	$113.6
Alternative Investments	
Private Income Pools	$35.7
Timberland Pools	$7.6
Global Private Equities	$21.6
	$64.9
Total Equities	$820.3
Total Investments	**$1,199.7**
Contributions Receivable	$3.3
Accounts Payable	($0.2)
Net Assets Available for Benefits	**$1,202.8**

Investment Policy

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

The Board annually reviews the funding requirements of the plan and after taking into account the expected risk and return associated with the various asset classes, has established the following long-term benchmark portfolio and allowable range of weights for asset classes within the portfolio.

	Long-term Policy Asset Mix		Actual Asset Mix	
Asset Class	2008	2007	2008	2007
Fixed income				
Short-term investments	1.0%	1.0%	1.3%	0.8%
Bonds and mortgages	12.0%	12.0%	12.2%	22.0%
Long government bonds	14.0%	14.0%	15.8%	10.7%
Real return bonds	2.0%	2.0%	2.3%	2.0%
Total fixed income	**29.0%**	**29.0%**	**31.6%**	**35.5%**
Equities				
Public equities				
Canadian	17.0%	17.0%	16.1%	18.2%
United States	17.5%	17.5%	18.3%	17.6%
Non-North American	17.5%	17.5%	19.1%	18.4%
Total public equities	52.0%	52.0%	53.5%	54.2%
Real estate	7.0%	7.0%	9.5%	7.6%
Alternative investments				
Private income	5.0%	5.0%	3.0%	1.6%
Private equities	5.0%	5.0%	1.8%	0.6%
Timberland	2.0%	2.0%	0.6%	0.5%
Total alternative investments	12.0%	12.0%	5.4%	2.7%
Total equities	**71.0%**	**71.0%**	**68.4%**	**64.5%**
Grand total	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Appendix B

Actuarial Methods and Assumptions

Actuarial Valuation Methods – Going-Concern Basis

Valuation of Assets

For this valuation, we have continued to use a smoothing method to develop the actuarial value of assets as was used by Hewitt Associates in the previous valuation. Under this method, investment income is recognized immediately, but realized and unrealized capital gains and losses are recognized over a three year period. The resulting asset value (excluding the unsmoothed value of the indexing fund) is then constrained to lie between 90% and 110% of the market value of assets. This constrained asset value plus the value of the assets in the indexing fund is equal to the actuarial value of assets. The smoothing adjustment is the difference between the actuarial value of assets and the market value of assets.

At the end of 2008, the smoothing reserve resulted in an actuarial value of assets more than the market value of assets, by $118.8 million. Generally speaking, consecutive years of net capital losses (both realized and unrealized) will result in an actuarial value of assets exceeding the market value, since losses are deferred. Similarly, consecutive years of net capital gains (both realized and unrealized) will result in the market value of assets exceeding the actuarial value of assets, since gains are deferred.

The actuarial value of the assets, determined as at December 31, 2008 under the smoothing method is $1,321.6 million.

This value was derived as follows:

Actuarial Value of Assets as at December 31, 2008 ($000,000's)

		December 31, 2008		
		Pre-1992	**Post-1991**	**Total**
A	Adjusted market value at December 31, 2008 (excluding indexing fund)	$554.0	$633.9	$1,187.9
	2007 unrealized gains (losses)	($13.7)	($12.8)	($26.5)
	2008 unrealized gains (losses)	($152.7)	($157.4)	($310.1)
	⅓ of 2007 unrealized gains (losses)	($4.6)	($4.3)	($8.9)
	⅔ of 2008 unrealized gains (losses)	($101.8)	($104.9)	($206.7)
B	Smoothing offset	($106.4)	($109.2)	($215.6)
C	Smoothed asset value before constraints **(A – B)**	$660.4	$743.1	$1,403.5
	90% of market value at December 31, 2008	$498.6	$570.5	$1,069.1
	110% of market value at December 31, 2008	$609.4	$697.3	$1,306.7
D	Constrained asset value	$609.4	$697.3	$1,306.7
E	Indexing fund balance	$0.0	$14.9	$14.9
Actuarial value of assets at December 31, 2008 **(D + E)**		$609.4	$712.2	$1,321.6

On an actuarial value basis, the average net rate of return (net of all expenses) for the fund in 2007 and 2008 was -0.88% and on a market value basis, the average net rate of return (net of all expenses) for the fund in 2007 and 2008 was -8.45%.

Valuation of Actuarial Liabilities

Over time, the real cost 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*, as was used by Hewitt Associates in the previous valuation. Under this method, we determine the actuarial present value of benefits accrued in respect of service prior to the valuation date, including ancillary benefits, based on projected final average earnings. This is referred to as the *actuarial liability*. For each individual plan member, accumulated contributions with interest are established as a minimum actuarial liability.

Indexing for post-2000 service is based on Board policy and financial affordability. The minimum actuarial liability includes COLA for post-2000 service based on the value of the Indexing Fund.

The *funding excess* or *unfunded liability*, as the case may be, is the difference between the actuarial value of assets and the actuarial liability. For post-1991 service, an unfunded liability will be amortized over no more than 15 years through special payments as required under the *Public Sector Pension Plans Act,* via reference to the *Employment Pension Plans Act.* Contributions to eliminate the unfunded liability for pre-1992 service are legislated in the *Public Sector Pension Plans Act.* A funding excess may, from an actuarial standpoint, be applied immediately to reduce required current service contributions unless precluded by the terms of the plan or by legislation.

This actuarial funding method produces a reasonable matching of contributions with accruing benefits. Because benefits are recognized as they accrue, the actuarial funding method aims at keeping the plan fully funded at all times. This promotes benefit security, once any unfunded liabilities and solvency deficiencies have been funded.

Current Service Cost

The *current service cost* is the actuarial present value of projected benefits to be paid under the plan with respect to service during the year following the valuation date.
The current service cost has been expressed as a percentage of the members' covered pay 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' covered pay, can be expected to remain stable as long as the average age of the group remains constant.

Contributions

Accordingly, the contributions for this purpose, with respect to post-1991 service, are determined as follows:

Contributions

With a funding excess	With an unfunded liability
Current service cost	Current service cost
MINUS	PLUS
Any funding excess applied to cover the current service cost	Payments to amortize any unfunded liability

As detailed in the *Public Sector Pension Plans Act*, the Plan's unfunded liability for service prior to January 1, 1992 is targeted to be eliminated on or before December 31, 2036 through the payment of additional contributions.

Actuarial Assumptions — Going-Concern Basis

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

Emerging experience will result in gains or losses that will be revealed and considered in future actuarial valuations.

For this valuation, we have used the following assumptions:

Actuarial Assumptions – Going-Concern Basis

Description	As at December 31, 2008
Discount rate	6.30%
Alberta CPI	2.30%
Canada CPI	2.00%
Salary escalation	5.00% for 3 years after the valuation date, 3.00% per year thereafter, plus merit and promotion scale
YMPE escalation	2.50% per year
Increase in *Income Tax Act* maximum pension limits (used to limit pensionable earnings)	2.50% per year
Interest credited on member contributions	5% per year
Merit and promotion (sample rates)	
Age 20	4.30%
Age 30	2.80%
Age 40	1.20%
Age 50	0.60%
Age 60	0.00%
Retirement rates	
Years Since Eligible to Retire*	Percentage Assumed to Retire
0	40%
1	25%
2+	15%
* A rate of 100% is assumed at age 60, in lieu of the above.	
Mortality	1994 Uninsured Pensioner (UP94) with generational mortality improvements
Termination rates (sample rates)	
Age 20	0.83%
Age 30	0.83%
Age 40	0.50%
Age 50	0.00%
Percent electing deferred pension	100%
Disability incidence	None
Proportion married at retirement or death before retirement	90%
Spousal age difference	Male member: spouse 4 years younger Female member: spouse 4 years older
Cost-of-living increases	60% of Alberta CPI for service up to and including December 31, 2000; Based on Board policy for service after December 31, 2000
Actuarial cost method	Projected Unit Credit
Asset valuation method	Smoothed value, constrained to be between 90% and 110% of the market value of assets

Economic Assumptions

Level of Price Inflation

The Alberta level of price inflation directly influences benefits provided by the plan by the application of the cost-of-living increases. The Canada level of price inflation is useful in developing a coherent set of economic assumptions for the expected return of the underlying asset portfolio by relating several of the individual assumptions to an assumed long term level of underlying price inflation.

For this valuation, we have assumed that Alberta CPI would increase 2.30% per annum. The previous valuation assumed that Alberta CPI would increase 2.50% per annum.

We have assumed that Canada CPI for this valuation would increase 2.00% per annum. The previous valuation assumed that Canada CPI would increase 2.50% per annum.

Pensions in payment and deferred pensions are assumed to increase annually at the rate of 60% of Alberta CPI for service up to and including December 31, 2000, and based on Board policy for service after December 31, 2000.

Investment Return

Since benefits promised by the plan will be paid out over a period of time in the future, it is necessary to make an assumption as to the rate of investment return the fund will realize over the period of its existence. We have assumed that the investment return on the smoothed value of the fund will average 6.30% per year over the long term, based on an ultimate assumed inflation rate in Canada of 2.00% per year plus a real rate of return of 4.30% per year. We have derived this assumption from the expected long-term return on the pension fund less an allowance for investment expenses and less a margin for adverse deviations, as described below.

We have assumed a gross rate of return on the pension fund of 7.69%, consistent with market conditions applicable on the valuation date, based on estimated returns for each major asset class and the target asset mix specified in the plan’s investment policy. Additional returns of 0.30% are assumed to be achievable due to active management.

We have allowed for investment management expenses of 0.30% per year, and have included a margin for adverse deviations, from all sources, of 1.39% per year.

If the fund achieves higher investment returns than assumed, gains will be revealed at subsequent valuations. If the fund achieves lower investment returns, losses will emerge.

The previous valuation by Hewitt Associates assumed the investment return on the actuarial value of the fund, net of investment expenses, would average 6.50% over the long term.

Expenses

We have included a provision of $1.2 million in the current service cost to meet all administrative expenses charged to the fund. (The assumed Investment Return reflects an implicit provision for investment expenses.)

Real Wage Increases

The benefits provided by the plan are affected by individual wage increases and the Year's Maximum Pensionable Earnings (YMPE) under the Canada Pension Plan. These factors increase due to average real wage increases in Canada for overall productivity gains.

In this valuation, we have utilized a real wage increase assumption of 0.50% per annum.

Increases in 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 2008 earnings and assumed that such pensionable earnings will increase at 5.00% for the first 3 years after the valuation date, and 3.00% per year thereafter, plus merit and promotion. This assumption is based on input from the Special Forces Pension Board regarding future salary expectations. Individual salary increases can generally be considered to result from general economic conditions, plus non-economic factors such as merit and promotion.

To the extent that salaries increase by greater than assumed rates, losses will accrue in the plan's funding. Gains will emerge if salaries increase at a lower rate than assumed.

The previous valuation assumed pensionable earnings would increase at 3.90% in 2007, 4.40% in 2008 and 3.00% thereafter, plus merit and promotion.

Increases in the YMPE

Since the benefits provided by the plan depend on the final average Year's Maximum Pensionable Earnings (YMPE) under the Canada Pension Plan, it is necessary to make an assumption about increases in the YMPE for this valuation. We have assumed that the YMPE will increase at the rate of 2.50% per year from its 2009 level of $46,300.

This is based on:

- an assumed inflation rate in Canada of 2.00% per year; and
- an assumed productivity component of 0.50% per year.

The previous valuation assumed the YMPE would increase at 3.00% per year.

Increases in the Maximum Pensionable Earnings

There is no earnings limit for pensionable earnings in respect of service prior to January 1, 1992.

For service on or after January 1, 1992, maximum pensionable earnings are assumed to be limited to such a level that accrued benefits do not exceed the *Income Tax Act* maximum benefit limit per year of service.

For purposes of calculating post-1991 benefits, we have limited 2009 pensionable earnings to $136,112 (calculated as $2,444 divided by 2%, plus 30% of the 2009 YMPE). The benefit limit of $2,444 is assumed to increase by 2.50% per year.

The previous valuation assumed the maximum benefit limit would be $2,222 in 2007, $2,333 in 2008, $2,444 in 2009 and, starting in 2010, would increase at 3.00% per year.

Interest Credited on Member Required Contributions

The assumed interest rate credited on member contributions will represent, on average, 5.00% per annum over the long term.

Total Payroll Growth

For purposes of calculating the actuarial present value of pre-1992 unfunded liability additional contributions over the period to December 31, 2036, we have assumed total payroll will grow at 5.00% for 3 years and 3.00% per year thereafter.

Demographic Assumptions

Merit and Promotion

The following rates varying by age were used for this valuation and the previous valuation.

Age	Merit & Promotion Sample rates
20	4.30%
30	2.80%
40	1.20%
50	0.60%
60	0.00%

Retirement Age

Age at retirement is an important consideration for this plan. The younger the members are at retirement, the greater the cost to the plan of a given member's pension.

For this valuation and the previous valuation, the retirement rates are outlined below.

Years since Eligible to Retire*	Rate of Retirement
0	40%
1	25%
2+	15%

* A rate of 100% is assumed at age 60, in lieu of the above.

Termination of Employment

We have made an allowance for projected benefits payable on the termination of employment before retirement for reasons other than death.

We have used termination rates that have not changed since the previous valuation.

Sample rates are shown in the following table:

Age	Sample Termination Rates Males & Females
20	0.83%
25	0.83%
30	0.83%
35	0.67%
40	0.50%
45+	0.00%

Mortality

The rates of mortality assumed in a valuation serve two purposes: firstly, to determine what portion of the current membership will survive to retirement age, and secondly, to forecast the remaining lifetime of members once they reach retirement.

For this valuation, we have assumed mortality rates, both before and after retirement, in accordance with the Uninsured Pensioner Table for 1994 (UP94) projected for mortality improvements on a generational basis based on Scale AA for both active and retired members.

Although life expectancy values are not used directly in the valuation, they can be informative, particularly for tables involving future mortality improvements. Under the assumed mortality rates, a male member turning age 65 in 2009 would have a life expectancy of an additional 19.4 years (22.0 years for a female member). By comparison, a male member turning age 65 in 2020 would have a life expectancy at that point of 20.3 years (22.4 years for a female member).

The previous valuation assumed mortality rates in accordance with the UP94 table projected forward to 2007 at Scale AA.

Disability

Based on the number of members in approved LTD plans and the small number of disability claims experienced by the plan, we believe it is appropriate to ignore the contingency of disability as being immaterial.

Percent Electing Deferred Pension

100% of vested terminated members are assumed to elect a deferred pension.

Proportion Married and Age of Spouse

Because the plan provides benefits to the spouse of a member in certain circumstances, it is necessary to make assumptions as to the likelihood of a member having a spouse. For this valuation, we have assumed that 90% of members will have a spouse at retirement or death.

Male spouses have been assumed to be four years older than the female spouse.

Other Methodologies

We have prepared a list of additional assumptions and methods used in the valuation of the plan. This list is intended to assist users of this report in understanding the specific benefits valued. Small differences in methods and assumptions in a plan of this size can sometimes have effects in the millions of dollars.

- it is assumed that indexation of deferred and immediate pensions commences one year after termination or retirement;
- the present value of additional contributions is calculated assuming total payroll grows at the rates indicated in the report and that the total contribution remains at 2.75% of pay for the entire period ending December 31, 2036;
- the pensionable salary for calculating the normal cost percentage is nil for members with more than 35 years of service and nil for members who no longer accrue pensionable service under the plan;
- for deferred benefits on termination or death (post-1991 service), the pensions were deferred to age 55 in accordance with the plan.

Actuarial Valuation Methods and Assumptions — Solvency Basis

We have used the adjusted market value of the plan's assets in our valuation of the plan for solvency purposes.

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

We have considered that members not yet eligible for retirement on the valuation date would be entitled to a deferred pension payable at age 55. Members who are eligible for retirement are entitled to an immediate pension. For each individual plan member, accumulated contributions with interest plus 50% of the present value of the pension accrued after December 31, 1991 are established as a minimum actuarial liability (or member contributions, if greater, for pre-1992 service). Indexing for post-2000 service is based on the market value of the Indexing Fund.

Benefits are assumed to be settled through a lump sum transfer for active and deferred members not immediately eligible for retirement. The value of the benefits accrued on December 31, 2008 for such members is based on the assumptions and methods described in *Section 3800 – Pension Commuted Values* of the Canadian Institute of Actuaries Standards of Practice (effective April 2009) applicable for December 31, 2008, in accordance with relevant portability requirements.

Benefits are assumed to be settled through the purchase of annuities for active and deferred members immediately eligible for retirement as well as all pensioners and beneficiaries. The value of the benefits accrued on December 31, 2008, for such members, is based on an estimate of the cost of settlement through purchase of annuities at December 31, 2008.

There is limited data available to provide credible guidance on the cost of a purchase of indexed annuities in Canada. Therefore, we have relied on the *Canadian Institute of Actuaries Education Note: Assumptions for Hypothetical Wind-up and Solvency Valuations with Effective Dates Between December 31, 2008 and December 30, 2009*.

The assumptions are as follows:

Actuarial Assumptions

For benefits to be settled through a lump sum	
Interest rate:	4.20% for 10 years, 5.70% thereafter
Mortality rates:	UP94 table projected to 2020
Cost-of-living adjustments:	0.81% for 10 years, 1.17% thereafter, in respect of pre-2001 service Based on value of Indexing Fund for post-2000 service
For benefits to be settled through the purchase of an annuity	
Interest rate:	4.85% per year
Mortality rates:	UP94 table projected to 2015
Cost-of-living adjustments:	1.62% in respect of pre-2001 service Based on value of Indexing Fund for post-2000 service
For all benefits	
Family composition:	Same as for going-concern valuation
Termination expenses:	$0.8 million

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

The provision for termination expenses payable from the plan's assets is in respect of actuarial and administration expenses that would be incurred in terminating the plan.

Because the settlement of 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 the hypothetical wind-up being contested. Also excluded are transaction fees related to the liquidation of the plan's assets and any reduction in the value of the plan's equity assets resulting from this liquidation.

In determining the estimated termination expenses, we have assumed that the plan sponsors are solvent. 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.

The previous valuation assumed termination expenses of $0.4 million.

Appendix C

Membership Data

Analysis of Membership Data

The actuarial valuation is based on membership data as at December 31, 2008, provided by the Special Forces Pension Plan and Alberta Pensions Services Corporation. This data included dates of birth, gender, accumulated contributions with interest and pensionable service, (including prior bought service). Service fields were split for pre-1992, mid (1992 to 2000) and post-2000 service. Pensionable salary and in-year service were also provided. Contribution information was also provided, split by pre, mid and post service.

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. Any outstanding questions were sent to Alberta Pensions Services Corporation and adjustments were made according to the responses received.

Despite these numerous tests, where data was still unreliable or unavailable, assumptions were required to complete the data. These assumptions are summarized below:

Description	Assumption
Annualization of Pensionable Salary	Since the data provided did not include 2007 annualized salary, earnings were annualized using actual 2007 earnings and in-year service.
Missing Earnings Information	A number of active members did not have 2008 earnings information. We have assigned these members' 2008 earnings as the average 2008 earnings for active members.
Tracking of Individual Payments	Due to the nature of the asset information provided, it was not possible to reconcile individual member refunds. We have relied on individual member refund data provided to us by Alberta Pensions Services Corporation.
Hold-on Deposit Members	Since hold-on deposit members were not explicitly provided by Alberta Pensions Services Corporation, we have assumed that terminated members without deferred pension amounts are considered hold-on deposit members.
Non-Indexed Deferred Pension Offset Amounts	Because non-indexed deferred pension offset amounts were not readily available, we have used the same non-indexed pension offsets as in the previous valuation for existing deferred vested members. For new deferred vested members, we have calculated non-indexed deferred pension offsets by adjusting indexed deferred pension offset with actual cost-of-living increases.
Missing Spouse Dates of Birth for Pensioners	If we were not provided with a spousal date of birth for a pensioner with a joint and survivor pension form, we assumed that male spouses would be four years older than female spouses.

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

Membership Data

	31.12.2008	31.12.2006
Active Members		
▪ Number	3,649	3,334
▪ Total unlimited pensionable earnings for following year[7]	$304,877,600	$240,022,900
▪ Average unlimited pensionable earnings for following year[7]	$83,600	$72,000[8]
▪ Total limited pensionable earnings for following year	$304,083,900	$239,691,400
▪ Average limited pensionable earnings for following year	$83,300	$71,900
▪ Average years of pensionable service	10.5 years	11.8 years
▪ Average age	38.0 years	38.5 years
▪ Average accumulated contributions with interest	$72,300	$74,300
Deferred Pensioners[9]		
▪ Number	126	51
▪ Total annual deferred pension	$629,300	$501,800
▪ Average annual deferred pension	$5,000	$9,800
▪ Average age	38.9 years	42.0 years
Hold-on-Deposit Members		
▪ Number	13	59
▪ Average reserve held on deposit	$4,700	$5,100
▪ Average age	53.1 years	36.7 years
Pensioners and Survivors[9]		
▪ Number	2,035	1,815
▪ Total annual pension in payment	$74,455,300	$59,481,200
▪ Average annual pension in payment	$36,600	$32,800
▪ Average age	61.9 years	61.4 years

7 Used in determining benefits for service prior to January 1, 1992.

8 The average unlimited pensionable earnings disclosed by Hewitt Associates in the previous valuation were $68,200. This is due to the fact that earnings shown here are in respect of the year following the valuation date (2007), whereas Hewitt Associates reported earnings for the year prior to the valuation date (2006).

9 For purposes of this table, pensions at December 31, 2008 do not include January 1, 2009 cost-of-living adjustments.

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

Membership Reconciliation

	Active Members	Deferred and HODs	Pensioners and Survivors	Total
Number at December 31, 2006	3,334	110	1,815	5,259
Adjustments	-	-	(12)	(12)
New entrants	696	-	-	696
Return to active status	3	(3)	-	-
Retirements	(242)	(2)	244	-
Terminations of employment				
- Held on deposit	(1)	1	-	-
- Deferred pensions	(45)	45	-	-
- Refunds and lump sum payments	(90)	(12)	-	(102)
Deaths				
- With further entitlement	(1)	-	(35)	(36)
- Without further entitlement	(5)	-	(13)	(18)
Expiry of guarantee	-	-	-	-
New survivor pensions	-	-	36	36
Number at December 31, 2008	3,649	139	2,035	5,823

The distribution of the active members by age and pensionable service (and including 2009 expected unlimited annualized earnings for all members) as at December 31, 2008, is summarized as follows:

Distribution of Active Members as of December 31, 2008

Age Group	Service Group 0-4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
									# Average Earnings
Under 20	2								2
	*								*
20 - 24	137								137
	$58,905								$58,905
25 - 29	458	69							527
	$65,590	$82,338							$67,783
30 - 34	378	311	51						740
	$68,380	$84,420	$90,562						$76,650
35 - 39	247	280	265	44					836
	$70,496	$84,789	$91,872	$93,660					$83,278
40 - 44	90	97	142	232	99				660
	$73,731	$84,419	$90,986	$96,239	$100,019				$90,869
45 - 49	26	27	29	98	135	96			411
	$74,499	$86,169	$90,681	$94,841	$99,565	$104,098			$96,405
50 - 54	7	3	2	9	32	120	64	1	238
	$92,039	$98,718	*	$93,375	$95,204	$105,065	$111,593	*	$104,395
55 - 59	1	1		2	5	24	40	10	83
	*	*		*	$94,333	$101,402	$104,155	$102,287	$103,643
60 - 64						4	5	6	15
						$95,800	$110,565	$108,728	$105,893
Total	1,346	788	489	385	271	244	109	17	3,649
	$67,565	*	$91,376	$95,491	$99,119	$104,172	$108,816	*	$83,551

Total expected unlimited pensionable earnings for 2009: $304,877,600

Average age: 38.0

Average pensionable service: 10.5

* Certain cells have been suppressed in order to preserve confidentiality.

The distribution of the inactive members (pensioners, survivors and deferreds) by age and average annual pension (excluding January 1, 2009 COLA) as at December 31, 2008, is summarized as follows:

Distribution of Inactive Members by Age Group as of December 31, 2008

	Deferred Pensioners		Pensioners and Survivors	
Age	Number	Average Annual Pension	Number	Average Annual Pension
Under 25			1	*
25 – 29	18	$1,192		
30 – 34	28	$2,613		
35 – 39	43	$3,516		
40 – 44	13	$7,456	1	*
45 – 49	15	$11,791	104	$38,951
50 – 54	7	$14,707	382	$39,352
55 – 59	1	*	416	$39,018
60 – 64	1	*	440	$38,369
65 – 69			262	$34,176
70 – 74			181	$32,621
75 – 79			159	$31,426
80 – 84			73	$26,937
85 – 89			15	$25,956
90 – 94			1	*
95 – 99				
Total	**126**	**$4,995**	**2,035**	**$36,587**

* Cells with fewer than 3 members have been suppressed in order to preserve confidentiality.

Appendix D

Summary of Plan Provisions

Introduction

The following is a summary of the plan's main provisions in effect on December 31, 2008. It is not intended as a complete description of the plan.

The Special Forces Pension Plan is a contributory defined benefit pension plan for police officers employed by participating employers in Alberta. Prior to 1993, the *Special Forces Pension Plan Act* provided for the payment of pension and related ancillary benefits to eligible participants. In 1993, the *Public Sector Pension Plans Act* covering six public sector pension plans (including the Special Forces Pension Plan) was passed.

Eligibility for Membership

Eligible participants include full-time and part-time police officers who are employed by a participating local police authority. All eligible participants are required to join the plan effective from their date of hire.

Pensionable Service

Pensionable service, as defined under the provisions of the plan, is limited to 35 years. Pensionable service is used to determine eligibility for benefits, credit service and determination of highest average salary.

Contributions

Members and employers are required to make contributions to the plan in order to meet the funding requirements of the *Public Sector Pension Plans Act*.

Current Service Contributions

Members and employers contribute to current service costs until members attain 35 years of pensionable service. Employers are required to contribute 1.1% of pensionable earnings in excess of member contribution rates.

Cost-of-Living Adjustment Contributions

In addition to current service contributions, members and employers contribute to an indexing fund. The indexing fund is used to provide cost-of-living adjustments in respect of service after December 31, 2000.

Unfunded Liability Contributions

The pre-1992 unfunded liability is funded through additional contributions by members, employers and the Government of Alberta. The post-1991 unfunded liability is funded through additional equal contributions by members and employers.

Credited Interest

Prior to January 1, 1994, members' contributions were accumulated at the rate of 4% per annum, compounded semi-annually. Effective January 1, 1994, the rate of interest credited to members' contributions is the average yield of five year personal fixed term chartered bank deposits (CANSIM series V122515) over the most recent 12 month period.

Vesting

Benefits for members are vested on the completion of five years of pensionable service.

Retirement Dates

Normal Retirement Date

The normal retirement age is age 55 with five years of pensionable service, or the age at which the member attains 25 years of pensionable service, if earlier.

Early Retirement Date

Members are not eligible to retire before their normal retirement age.

Retirement Benefits

Normal Retirement

The annual pension payable at retirement is determined as follows:

- 2.0% of the highest average pensionable earnings, less
- 0.6% of the lesser of the highest average pensionable earnings and the average YMPE, beginning at age 65,

  all multiplied by pensionable service.

Highest average pensionable earnings are the member's average eligible earnings in the five consecutive years of service (including service in excess of 35 years) in which such average is the highest.

Average YMPE is the average of the Year's Maximum Pensionable Earnings in the years used in calculating the member's highest average pensionable earnings.

Pensionable earnings used to calculate benefits for service prior to January 1, 1992 are not limited by the *Income Tax Act*. Pensionable earnings used to calculate benefits for service after December 31, 1991 are limited to: the *Income Tax Act* maximum benefit limit divided by 2%, plus 30% of the YMPE (a limit of $136,112 in 2009).

Benefits on Disability

If the member is permanently and totally disabled, and the member is vested, the member is entitled to an immediate unreduced pension based on pensionable service and salary to the date of the disability. If the member is partially disabled, the pension is reduced before age 55, in accordance with the plan. Members in receipt of disability income from an approved plan continue to accrue current service.

Survivor Benefits

Death After Retirement

If the member does not have a spouse at retirement, the normal form pension is a life annuity guaranteed for five years. If the member dies before 60 monthly payments are made, the balance of the 60 payments are payable to the member's spouse or beneficiary.

If the member has a spouse at retirement, the normal form pension is a joint and survivor 65% annuity guaranteed for five years. If the member dies and the spouse is still alive, the spouse receives a pension for life that is equal to 65% of the pension that would have been payable to the pensioner had he continued to live. If both the member and the spouse die before 60 monthly payments are made, the balance of the 60 payments are payable to the member's beneficiary.

Optional forms of pension are available on an actuarially equivalent basis.

Death Prior to Retirement

Pre-1992 Service	Benefit
No Spouse	
- Not vested and death not as an active employee	- Refund of the member's contributions with interest.
- Vested or died while an active employee	- A pension equal to 15% of the accrued pension for each dependent child, up to a maximum of four dependents; or, - Refund of two times the member's contributions with interest.
Spouse	
- Not vested and death not as an active employee	- Refund of the member's contributions with interest.
- Vested or died while an active employee	- 65% of the accrued pension, plus 10% of the accrued pension for each dependent child, up to a maximum of three dependents; or, - Refund of two times the Member's contributions with interest.

Post-1991 Service	Benefit
No Spouse	
- Not vested	- Refund of the member's contributions with interest.
- Vested	- Transfer of 100% of commuted value plus excess contributions.
Spouse	
- Not vested	- Refund of the member's contributions with interest.
- Vested	- A pension for life determined as though the member had retired on the day before death and elected a J&S 100% optional form pension, plus excess contributions; or, - Transfer of 100% of commuted value plus excess contributions.

Termination Benefits

If a member's employment terminates for reasons other than death or retirement, the benefits payable from the plan will depend on the member's length of plan membership, as follows:

Benefits in the Event of Termination of Employment

Pre-1992 Service	Benefit
- Not vested	- Refund of the member's contributions with interest.
- Vested	- Deferred pension; or - Refund of the member's contributions with interest.

Post-1991 Service	Benefit
- Not vested	- Refund of the member's contributions with interest.
- Vested	- Deferred pension plus excess contributions; or - Transfer of 100% of commuted value plus excess contributions.

Cost-of-Living Increases

For service up to December 31, 2000, cost-of-living increases based on 60% of the Alberta CPI apply to both deferred pensions and pensions in payment.

For service after December 31, 2000, cost-of-living increases are based on Board policy and financial affordability.

Appendix E

Alberta Pensions Services Corporation Certification

With respect to the report on the actuarial valuation of the *Special Forces Pension Plan*, as at December 31, 2008, on behalf of Alberta Pensions Services Corporation, I hereby certify that, to the best of my knowledge and belief:

- a copy of the official plan documents and of all amendments made up to December 31, 2008 that I am aware of, were provided to the actuary;
- the membership data provided to the actuary is reasonably free of material misstatement under the terms of the plan for service up to December 31, 2008, and
- all events that I am aware of subsequent to December 31, 2008, which I believe would have a material impact on the results of the valuation have been communicated to the actuary.

ALBERTA PENSIONS SERVICES CORPORATION

Per: <original signed>

Monica Norminton
Chief Executive Officer

Date

MERCER

MARSH MERCER KROLL
GUY CARPENTER OLIVER WYMAN

Mercer (Canada) Limited
Suite 1200, Livingston Place
222 – 3rd Avenue SW
Calgary, AB T2P 0B4
403 269 4945

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