SPECIAL FORCES PENSION PLAN
REPORT ON THE ACTUARIAL VALUATION FOR FUNDING PURPOSES AS AT DECEMBER 31, 2016

SEPTEMBER 2017

Canada Revenue Agency Registration Number: 0584375

Note to reader regarding actuarial valuations:

This valuation report may not be relied upon for any purpose other than those explicitly noted in the Introduction, nor may it be relied upon by any party other than the parties noted in the Introduction. Mercer is not responsible for the consequences of any other use. A valuation report is a snapshot of a plan's estimated financial condition at a particular point in time; it does not predict a pension plan's future financial condition or its ability to pay benefits in the future. If maintained indefinitely, a plan's total cost will depend on a number of factors, including the amount of benefits the plan pays, the number of people paid benefits, the amount of plan expenses, and the amount earned on any assets invested to pay the benefits. These amounts and other variables are uncertain and unknowable at the valuation date. The content of the report may not be modified, incorporated into or used in other material, sold or otherwise provided, in whole or in part, to any other person or entity, without Mercer's permission. All parts of this report, including any documents incorporated by reference, are integral to understanding and explaining its contents; no part may be taken out of context, used, or relied upon without reference to the report as a whole.

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.

The solvency 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 the Public Sector Pension Plans Act, the Income Tax Act and related regulations, and the Employment Pension Plans 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

($000,000's)

Going-Concern Financial Position, Minimum Indexing for Post-2000 Service	**31.12.2016**	**31.12.2013**
Smoothed value of assets	$2,655.2	$1,902.4
Going concern funding target	$2,978.2	$2,367.0
Funding excess (unfunded liability)	($323.0)	($464.6)
Funded ratio	89.2%	80.4%
Going-Concern Financial Position, Indexing at 30% of CPI for Post-2000 Service	**31.12.2016**	**31.12.2013**
Smoothed value of assets	$2,655.2	$1,902.4
Going concern funding target	$3,000.0	$2,388.3
Funding excess (unfunded liability)	($344.8)	($485.9)
Funded ratio	88.5%	79.7%
Solvency Financial Position[1]	**31.12.2016**	**31.12.2013**
Solvency assets	$2,690.1	$2,025.3
Solvency liability	$3,992.4	$3,013.3
Solvency excess (deficiency)	($1,302.3)	($988.0)
Solvency ratio	67.4%	67.2%
Funding Requirements, Based on COLA for Post-2000 Service at 30% of CPI	**2017**	**2014**
Current service cost expressed as a percentage of pensionable earnings		
Basic current service cost plus expenses	22.52%	19.42%
COLA	1.50%	1.50%
Total	24.02%	20.92%
Pre-1992 unfunded liability contributions	2.75%	2.75%
Post-1991 unfunded liability contributions	2.48%	5.58%
Total contributions	29.25%	29.25%

[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.

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Introduction

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, 2016. 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 December 31, 2016 on going-concern and solvency bases; and

- The range of permissible funding contributions from 2017 pursuant to the *Public Sector Pension Plans Act* and the *Income Tax Act*.

The information contained in this report was prepared for the Special Forces Pension Board (the “Board”) and Alberta Treasury Board and Finance 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 next actuarial valuation of the plan will be required as at a date not later than December 31, 2019 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*.

Terms of Engagement

In accordance with our terms of engagement with the Board, 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 Board, we have reflected a margin for adverse deviations in our going-concern valuation by reducing the going-concern discount rate by 1.00% per year.

- We have reflected the Board’s decisions for determining the funding requirements, including the use of a smoothed value of assets.

Events since the Last Valuation at December 31, 2013

Pension Plan

We are not aware of any changes to the plan since the previous valuation at December 31, 2013 that have a material effect on the plan’s funding.

This valuation reflects the provisions of the plan as at December 31, 2016. A summary of the plan provisions is provided in Appendix D.

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	5.3%	6.1%
Non-investment expenses	$2.4 million	$2.6 million
Inflation	2.00%	2.30%
Pensionable earnings increases	2.00% for 3 years, 2.75% thereafter plus merit and promotion	3.00% per year plus merit and promotion
ITA limit / YMPE increases:	3.00%	2.50%

The solvency assumptions have been updated to reflect market conditions at the valuation date.

Summaries of the going-concern and solvency methods and assumptions are provided in Appendix B.

Regulatory Environment and Actuarial Standards

A new Employment Pension Plans Act and Regulation came into force on September 1, 2014. The funding of pension plans was impacted to the extent that new rules apply before a contribution holiday may be taken and there are restrictions on the amount of a contribution holiday in a given fiscal year. These changes do not impact the funding of the Plan.

At its meeting on June 9, 2015, the Actuarial Standards Board (ASB) decided to promulgate the use of the following mortality table with respect of the computation of pension commuted values ("CIA CV Standard"), effective October 1, 2015: *Mortality rates equal to the 2014 Canadian Pensioners Mortality Table (CPM2014) combined with mortality improvement scale CPM Improvement Scale B (CPM-B)*. The change affects the mortality assumption used to value the solvency liabilities for benefits assumed to be settled through a lump sum transfer. The financial impact of the change in the CIA CV Standard has been reflected in this actuarial valuation on a solvency basis.

We are not aware of any changes to the *Public Sector Pension Plans Act* or any other relevant legislation which impact the funding of the Plan.

Subsequent Events

The Canadian Institute of Actuaries Task Force on Mortality Improvement (Task Force) released a report, in draft form in April 2017 and in final form on September 20, 2017, which provides a proposed new mortality improvement scale (MI-2017) for the purpose of reflecting future mortality improvement in Canadian actuarial work. We will review the mortality improvement scale in a future valuation.

On July 20, 2017, the Canadian Institute of Actuaries released an Exposure Draft with proposed changes to the standards for pension commuted values ("Section 3500"). The impact of any changes to Section 3500 will be considered in a future actuarial valuation, once the amendments are finalized.

After checking with representatives of the 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. 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.

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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.

Within the Plan, cost-of-living adjustments ("COLA" or "indexing") are made on a contractual basis at 60% of Alberta inflation ("CPI" or "inflation") 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 are credited to the Indexing Fund of the Plan and, together with accumulated capital appreciation (depreciation) and other investment income, are 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 holds 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 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*.

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

1. Minimum indexing for post-2000 service based on the value of the Indexing Fund and current service contributions towards COLA;

2. Maximum indexing for post-2000 service based on the limits imposed under the Income Tax Act; and

3. Indexing for post-2000 service based on 30% of CPI, which is the Board's target COLA for post-2000 service. The current service cost of providing indexing of 30% of CPI is 1.73% of pay, higher than the 1.5% current service contribution towards COLA (ignoring any unfunded liabilities relating to indexing for post-2000 service). The difference of 0.23% of pay is made up by additional current service cost contributions.

Financial Position – Minimum Indexing

The results of the current valuation, reflecting minimum indexing for post-2000 service, compared with those from the previous valuation, are summarized as follows:

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

	31.12.2016	31.12.2013
Assets		
Market value – Main Fund	$2,600.1	$1,970.1
Smoothing adjustment	($35.7)	($123.7)
Smoothed value of assets – Main Fund	$2,564.4	$1,846.4
Market value – Indexing Fund	$90.8	$56.0
Total smoothed value of assets	$2,655.2	$1,902.4
Going concern funding target		
• Active members	$1,377.9	$1,066.7
• Pensioners and survivors	$1,488.2	$1,231.6
• Deferred pensioners and hold-on-deposits	$21.3	$12.7
• Indexing for post-2000 service	$90.8	$56.0
Total	$2,978.2	$2,367.0
Funding excess (unfunded liability)	($323.0)	($464.6)
Funded ratio	89.2%	80.4%

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, 2016 ($000,000's)		
	Pre-1992	**Post-1991**	**Total**
Assets			
Market value – Main Fund	$618.6	$1,981.5	$2,600.1
Smoothing adjustment	($9.2)	($26.5)	($35.7)
Smoothed value of assets – Main Fund	$609.4	$1,955.0	$2,564.4
Market value – Indexing Fund	$0.0	$90.8	$90.8
Total smoothed value of assets	$609.4	$2,045.8	$2,655.2
Going concern funding target			
• Active members	$54.1	$1,323.8	$1,377.9
• Pensioners and survivors	$793.8	$694.4	$1,488.2
• Deferred pensioners and hold-on-deposits	$1.1	$20.2	$21.3
• Indexing for post-2000 service	$0.0	$90.8	$90.8
Total	$849.0	$2,129.2	$2,978.2
Funding excess (unfunded liability)	($239.6)	($83.4)	($323.0)
Funded ratio	71.8%	96.1%	89.2%
Government share of unfunded liability	$132.6	$0.0	$132.6
Employer and member share of unfunded liability	$107.0	$83.4	$190.4

Financial Position – Maximum Indexing

The results of the current valuation, reflecting the maximum level of indexing for post-2000 service that is permitted under the Income Tax Act, compared with those from the previous valuation, are summarized as follows:

Financial Position – Going-Concern Basis ($000,000's)
Maximum Indexing for Post-2000 Service Based on 100% of CPI

	31.12.2016	31.12.2013
Assets		
Market value – Main Fund	$2,600.1	$1,970.1
Smoothing adjustment	($35.7)	($123.7)
Smoothed value of assets – Main Fund	$2,564.4	$1,846.4
Market value – Indexing Fund	$90.8	$56.0
Total smoothed value of assets	$2,655.2	$1,902.4
Going concern funding target		
• Active members	$1,726.4	$1,315.7
• Pensioners and survivors	$1,571.1	$1,285.8
• Deferred pensioners and hold-on-deposits	$28.7	$16.7
Total, inclusive of COLA	$3,326.2	$2,618.2
Funding excess (unfunded liability)	($671.0)	($715.8)
Funded ratio	79.8%	72.7%

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.

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

	As at December 31, 2016 ($000,000's)		
	Pre-1992	**Post-1991**	**Total**
Assets			
Market value – Main Fund	$618.6	$1,981.5	$2,600.1
Smoothing adjustment	($9.2)	($26.5)	($35.7)
Smoothed value of assets – Main Fund	$609.4	$1,955.0	$2,564.4
Market value – Indexing Fund	$0.0	$90.8	$90.8
Total smoothed value of assets	$609.4	$2,045.8	$2,655.2
Going concern funding target			
• Active members	$54.1	$1,672.3	$1,726.4
• Pensioners and survivors	$793.8	$777.3	$1,571.1
• Deferred pensioners and hold-on-deposits	$1.1	$27.6	$28.7
Total, inclusive of COLA	$849.0	$2,477.2	$3,326.2
Funding excess (unfunded liability)	($239.6)	($431.4)	($671.0)

Financial Position – Indexing at 30% of CPI

The results of the current valuation, reflecting indexing for post-2000 service at 30% of CPI, compared with those from the previous valuation, are summarized as follows:

Financial Position – Going-Concern Basis ($000,000's)
Indexing for Post-2000 Service Based on 30% of CPI

	31.12.2016	31.12.2013
Assets		
Market value – Main Fund	$2,600.1	$1,970.1
Smoothing adjustment	($35.7)	($123.7)
Smoothed value of assets – Main Fund	$2,564.4	$1,846.4
Market value – Indexing Fund	$90.8	$56.0
Total smoothed value of assets	$2,655.2	$1,902.4
Going concern funding target		
• Active members	$1,467.2	$1,129.2
• Pensioners and survivors	$1,509.7	$1,245.4
• Deferred pensioners and hold-on-deposits	$23.1	$13.7
Total, inclusive of COLA	$3,000.0	$2,388.3
Funding excess (unfunded liability)	($344.8)	($485.9)
Funded ratio	88.5%	79.7%

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

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.

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

	As at December 31, 2016 ($000,000's)		
	Pre-1992	**Post-1991**	**Total**
Assets			
Market value – Main Fund	$618.6	$1,981.5	$2,600.1
Smoothing adjustment	($9.2)	($26.5)	($35.7)
Smoothed value of assets – Main Fund	$609.4	$1,955.0	$2,564.4
Market value – Indexing Fund	$0.0	$90.8	$90.8
Total smoothed value of assets	$609.4	$2,045.8	$2,655.2
Going concern funding target			
• Active members	$54.1	$1,413.1	$1,467.2
• Pensioners and survivors	$793.8	$715.9	$1,509.7
• Deferred pensioners and hold-on-deposits	$1.1	$22.0	$23.1
Total, inclusive of COLA	$849.0	$2,151.0	$3,000.0
Funding excess (unfunded liability)	($239.6)	($105.2)	($344.8)
Funded ratio	71.8%	95.1%	88.5%
Government share of unfunded liability	$132.6	$0.0	$132.6
Employer and member share of unfunded liability	$107.0	$105.2	$212.2

Reconciliation of Financial Status

The plan's financial position as at December 31, 2016, an unfunded liability of $344.8 million on the basis of indexing for post-2000 service at 30% of CPI, is reconciled with its previous position, an unfunded liability of $485.9 million as at December 31, 2013, as follows:

Funding excess (shortfall) as at previous valuation		($485.9)
Interest on funding excess (shortfall) at 6.10% per year		($94.5)
Unfunded liability payments, with interest		$122.8
Expected funding excess (shortfall)		($457.6)
Net experience gains (losses)		
• Investment return	$342.4	
• Increases in pensionable earnings and YMPE	$8.5	
• Indexation	$12.6	
• Retirement	$12.7	
• Mortality	$6.3	
• Termination	($5.5)	
• Impact of demographic changes on current service cost	($5.3)	
Total experience gains (losses)		$371.7
Impact of changes in assumptions		
• Discount rate	($347.9)	
• Inflation and pensionable earnings, ITA limit and YMPE increases	$91.3	
Total assumption changes impact		($256.6)
Data changes		($2.4)
Net impact of other elements of gains and losses		$0.1
Funding excess (shortfall) as at current valuation		($344.8)

Commentary

- Member, employer and government payments towards the pre-1992 and post-1991 unfunded liabilities improved the funded status by $122.8 million.

- The average investment return net of investment management expenses of 11.1% over the inter-valuation period on the smoothed value of assets was higher than the valuation assumption of 6.1% per annum. This higher investment return produced a gain of approximately $342.4 million. Note that the rate of return net of investment management expenses on the market value of assets over this period was 9.3%. The smoothing methodology defers recognition of a portion of the 2015 gains/losses to the 2017 calendar year, and a portion of 2016 gains/losses to the 2017 and 2018 calendar years.

- The actual weighted average increase in pensionable earnings over the inter-valuation period was 3.8% per year. The expected weighted average increase in pensionable earnings over this same period was 4.1% per year. In combination with the actual YMPE increases being slightly lower than expected and a lower than expected increase in the maximum pension permitted under the *Income Tax Act*, the lower than assumed earnings growth produced a gain of $8.5 million.

- The valuation at December 31, 2013 reflected cost-of-living increases based on assumed inflation of 2.3%. The actual cost-of-living increases for pre-2001 and post-2000 service were based on actual average inflation in the inter-valuation period of 1.7% per year (2.6% at January 1, 2015, 1.2% at January 1, 2016 and 1.3% at January 1, 2017). The lower than expected cost-of-living increases produced a gain of approximately $12.6 million.

- Retirement and mortality experience were more favourable than assumed, producing net experience gains of approximately $12.7 million and $6.3 million, respectively.

- Termination experience was less favourable than assumed, producing net experience losses of approximately $5.5 million.

- Changes in the demographics of the active membership resulted in total contributions over the inter-valuation period based on the service cost formula being less than the cost of benefits accrued. This resulted in a loss of approximately $5.3 million.

- The valuation reflects changes to the discount rate, inflation rate and ITA limit, YMPE and pensionable earnings increases assumptions, as detailed in Appendix B. The net impact of these changes is an increase in the going concern funding target of the Plan of $256.6 million.

- The valuation reflects changes to the valuation data as a result of a recent upgrade to administrative systems used by Alberta Pensions Services Corporation. This resulted in a net loss of $2.4 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.

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 after the valuation date, assuming the Plan will be maintained indefinitely.

The current service cost during the year following the valuation date, reflecting COLA for post-2000 service of 30% of CPI, compared with the corresponding value determined in the previous valuation, is as follows:

($000,000's)	2017	2014
Basic current service cost, excluding COLA	$101.6	$77.1
Cost of living adjustments (30% of CPI)	$8.1	$6.6
Estimated administrative expenses	$2.4	$2.6
Total member and employer current service cost	$112.1	$86.3
Estimated pensionable earnings in year	$466.9	$412.3
Current service cost expressed as a percentage of pensionable earnings		
Basic current service cost plus expenses	22.52%	19.42%
COLA[2]	1.50%	1.50%
Total	24.02%	20.92%

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

The key factors that have caused a change in the basic current service cost since the previous valuation are as follows:

Basic current service cost as at previous valuation	19.42%
Changes in assumptions	2.99%
Demographic changes	0.11%
Basic current service cost as at current valuation	22.52%

The total current service cost determined in this valuation which reflects only the COLA that can be provided with the minimum legislated COLA contributions of 1.50% is 23.79% of pensionable earnings.

The current service cost determined in this valuation which reflects the maximum indexing that is permitted under the Income Tax Act of 100% of CPI is 29.05% of pensionable earnings.

[2] The actual cost of COLA at 30% of Alberta CPI is 1.73% of pensionable earnings. However, legislated COLA contributions are 1.50% of pensionable earnings. The additional 0.23% of pensionable earnings is included as part of the basic current service contribution.

Discount Rate Sensitivity

The following table summarises the effect on the going concern funding target and current service cost, reflecting indexing for post-2000 service at 30% of CPI, shown in this report of using a discount rate which is 1% lower than that used in the valuation:

($000,000's)	**Valuation Basis**	**Reduce Discount Rate by 1%**
Going concern funding target	$3,000.0	$3,541.2
Current service cost		
Total member and employer current service cost	$112.1	$144.0
Estimated pensionable earnings in year	$466.9	$466.9
Current service cost as a percentage of pensionable earnings	24.02%	30.85%

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Valuation Results – Solvency

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.

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, 2016, the solvency ratio of the plan, being the ratio of solvency assets to solvency liabilities, is 67.4%. The plan's solvency position as at December 31, 2016, in comparison with that of the previous valuation as at December 31, 2013, is as follows:

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

	31.12.2016	31.12.2013
Assets		
Market value – Main Fund	$2,600.1	$1,970.1
Wind-up expenses provision	($1.0)	($0.8)
Market value – Indexing Fund	$90.8	$56.0
Total solvency assets	$2,689.9	$2,025.3
Liabilities		
• Active members	$1,738.6	$1,252.8
• Pensioners and survivors	$2,129.4	$1,685.8
• Deferred pensioners and hold-on-deposits	$33.6	$18.8
• Indexing for post-2000 service	$90.8	$56.0
Total solvency liability	$3,992.4	$3,013.3
Solvency surplus (deficiency)	($1,302.5)	($988.0)
Solvency ratio	67.4%	67.2%

The financial position as at December 31, 2016 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, 2016		
	Pre-1992	**Post-1991**	**Total**
Assets			
Market value – Main Fund	$618.6	$1,981.5	$2,600.1
Wind-up expenses provision	($0.5)	($0.5)	($1.0)
Market value – Indexing Fund	$0.0	$90.8	$90.8
Total solvency assets	$618.1	$2,071.8	$2,689.9
Liabilities			
• Active members	$90.3	$1,648.3	$1,738.6
• Pensioners and survivors	$1,139.8	$989.6	$2,129.4
• Deferred pensioners and hold-on-deposits	$1.7	$31.9	$33.6
• Indexing fund for post-2000 service	$0.0	$90.8	$90.8
Total solvency liability	$1,231.8	$2,760.6	$3,992.4
Solvency surplus (deficiency)	($613.7)	($688.8)	($1,302.5)
Solvency ratio	50.2%	75.0%	67.4%

Impact of Plan Wind Up

In our 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 $1,302.5 million. This calculation includes a provision of $1.0 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.

Solvency Incremental Cost to December 31, 2019

The solvency incremental cost is an estimate of the present value of the projected change in the solvency liabilities from the valuation date until the next scheduled valuation date, adjusted for the benefit payments expected to be made in that period.

The solvency incremental cost determined in this valuation, compared with the corresponding value determined in the previous valuation, is as follows:

	December 31, 2016	December 31, 2013
Number of years covered by report	3 years	3 years
Total solvency liabilities at the valuation date (A)	$3,992.4	$3,013.3
Present value of projected solvency liability at the next required valuation (including expected new entrants) plus benefit payments until the next required valuation (B)	$4,614.0	$3,517.3
Solvency incremental cost (B – A)	$621.6	$504.0

The solvency incremental cost includes indexing for post-2000 service based solely on the level of indexing that could be provided by the market value of the Indexing Fund. It also considers the effect of employee and employer contributions totalling 1.50% of pay to be remitted to the indexing fund over the next 3 years.

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 solvency 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 solvency liabilities.

Discount Rate Sensitivity

The following table summarises the effect on the solvency 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 solvency liability	$3,992.4	$4,764.5

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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 towards 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 (2017 forward). They are jointly funded by contributing members and employers, with employers contributing 1.1% of pay more 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

As described in Section 3, the basic current service cost determined in this valuation is 22.52% of pensionable earnings. The basic current service cost is funded by contributing members and employers with contribution rates of 10.71% and 11.81%, respectively.

In addition, contributing members and employers each contribute 0.75% of pensionable earnings towards the legislated COLA contributions of 1.50% of pensionable earnings.

Additional Contributions Related to Pre-1992 Service

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

	Percentage of Pensionable Earnings
Government	1.25%
Members	0.75%
Employers	0.75%
Total	2.75%

As at December 31, 2016, the pre-1992 unfunded liability is $239.6 million. The legislated contributions in respect of the pre-1992 unfunded liability have an actuarial present value as at December 31, 2016 as follows:

Additional Contributions for Pre-1992 Service ($000,000's)

	Percentage of Pensionable Earnings	Estimated Dollar Amount in 2017	Present Value of Future Additional Contributions	Last Payment
Government contributions	1.25%	$5.8	$89.0	Dec. 31, 2036
Member contributions	0.75%	$3.5	$53.5	Dec. 31, 2036
Employer contributions	0.75%	$3.5	$53.5	Dec. 31, 2036
Total contributions	2.75%	$12.8	$196.0	

The total present value of future additional contributions of $196.0 million is less than the pre-1992 unfunded liability of $239.6 million as at December 31, 2016. As a result, based on the assumptions used for this valuation, 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

The *Public Sector Pension Plans Act* of Alberta prescribes the minimum special payments related to post-1991 service that must be made to the Plan.

At the last actuarial valuation as at December 31, 2013 the Board established post-1991 special payments in 2015, 2016 and 2017 in accordance with the following schedule:

Prior Post-1991 Special Payment Schedule ($000,000's)

	Date Established	Percentage of Pensionable Earnings	Estimated Dollar Amount in 2017	Present Value of 2017 Special Payment	Last Payment
Member	Dec 31, 2011	1.98%	$9.2	$9.0	Nov 30, 2021
	Dec 31, 2013	0.81%	$3.8	$3.7	Dec 31, 2028
Employer	Dec 31, 2011	1.98%	$9.2	$9.0	Nov 30, 2021
	Dec 31, 2013	0.81%	$3.8	$3.7	Dec 31, 2028
Total special payments		5.58%	$26.0	$25.4	

The above post-1991 special payment contribution schedule will remain until the end of 2017 at which time the employers and employees will adopt a new schedule in accordance with this December 31, 2016 report. The present value at December 31, 2016 of the 2017 special payments in accordance with the prior scheduled special payments is $25.4 million.

The following table outlines the minimum special payments to eliminate the post-1991 unfunded liability of $83.4 million as at December 31, 2016, taking into consideration minimum cost-of-living adjustments that are equivalent to the value of the Indexing Fund, after adjusting for the present value ($25.4 million) of the previously scheduled 2017 post-1991 special payments as per the prior valuation report. Since the present value of the existing special payments is more than sufficient to cover the minimum requirement, the table below shows the reduced special payment requirement.

Minimum Post-1991 Special Payments – Effective January 1, 2018 ($000,000's)

	Date Established	Payment Start Date	Percentage of Pensionable Earnings	Present Value of Future Special Payments	Last Payment
Member	Dec 31, 2013	Jan 1, 2018	0.69%	$29.0	Dec 31, 2028
Employer	Dec 31, 2013	Jan 1, 2018	0.69%	$29.0	Dec 31, 2028
Total special payments			1.38%	$58.0	

Under the *Income Tax Act*, the total contribution must be no more than (i) the current service cost[3], 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 maximum permissible contribution rate with respect to the unfunded liability for post-1991 service of $431.4 million, including cost-of-living adjustments in respect of post-2000 service at 100% of CPI, assuming that such unfunded liability is amortized over the period until the next required actuarial valuation, after adjusting for the present value ($25.4 million) of the previously scheduled 2017 post-1991 special payments as per the prior valuation report.

[3] Including COLA contributions, with COLA in respect of post-2000 service at 100% of CPI.

Maximum Post-1991 Special Payments – Effective January 1, 2018 ($000,000's)

	Date Established	Payment Start Date	Percentage of Pensionable Earnings	Present Value of Future Special Payments	Last Payment
Member	Dec 31, 2016	Jan 1, 2018	23.45%	$203.0	Dec 31, 2019
Employer	Dec 31, 2016	Jan 1, 2018	23.45%	$203.0	Dec 31, 2019
Total special payments			46.90%	$406.0	

The Board intends to grant cost-of-living adjustments in respect of post-2000 service at a level that is 30% of CPI. The inclusion of 30% of CPI COLA in respect of service earned between January 1, 2001 and December 31, 2016 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.

In addition, the board has elected to maintain a total contribution rate for members and employers of 28.00% of covered pay. As a result, the board has established special payments which will eliminate the post-1991 unfunded liability of $105.2 million as at December 31, 2016, reflecting COLA of 30% of CPI with respect to post-2000 service, as follows:

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

	Date Established	Payment Start Date	Percentage of Pensionable Earnings	Present Value of FutureSpecial Payments	Last Payment
Member	Dec 31, 2011	Jan 1, 2015	1.98%	$9.0	Dec 31, 2017
	Dec 31, 2011	Jan 1, 2018	0.43%	$5.5	Dec 31, 2020
	Dec 31, 2013	Jan 1, 2015	0.81%	$3.7	Dec 31, 2017
	Dec 31, 2013	Jan 1, 2018	0.81%	$34.4	Dec 31, 2028
Employer	Dec 31, 2011	Jan 1, 2015	1.98%	$9.0	Dec 31, 2017
	Dec 31, 2011	Jan 1, 2018	0.43%	$5.5	Dec 31, 2020
	Dec 31, 2013	Jan 1, 2015	0.81%	$3.7	Dec 31, 2017
	Dec 31, 2013	Jan 1, 2018	0.81%	$34.4	Dec 31, 2028
Total special payments in calendar year 2017			5.58%	$25.4	
Total special payments in calendar years 2018 to 2020			2.48%	$79.8	
Total special payments in calendar years 2021 to 2028			1.62%		

The percentage of pensionable earnings is calculated as a level percentage of pay through to the last payment date, assuming pensionable earnings grow at 2.00% per year for 3 years and 2.75% 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 requirements of the Alberta *Employment Pension Plans Act*.

Total Contributions

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, 2016 for the period to December 31, 2019:

	Minimum Required Under the *Public Sector Pension Plans Act*	Maximum Permitted Under the *Income Tax Act*
Current service cost	23.79%	29.05%
Pre-1992 unfunded liability (including government contributions)	2.75%	2.75%
Post-1991 unfunded liability	1.38%	46.90%
Total contributions	27.92%	78.70%

The minimum contributions reflect the currently legislated COLA contributions of 1.5% of pay for service after December 31, 2016. Should the Board amend the plan to reduce the current service COLA contribution below 1.5% of pay, the minimum required contribution would correspondingly decrease. 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 elected to maintain a total contribution rate for members and employers of 28.00%. The contribution rates for members and employers effective January 1, 2018 are shown in the following table.

	Member	**Employer**	**Total**
Current service contributions			
Basic benefit	10.71%	11.81%	22.52%
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	1.24%	1.24%	2.48%
Total contributions	13.45%	14.55%	28.00%

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

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Actuarial Opinion

In our opinion, for the purposes of the valuation:

- 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 standards set by the *Public Sector Pension Plans Act*.

ORIGINAL SIGNED BY
Scott Clausen
Fellow of the Society of Actuaries
Fellow of the Canadian Institute of Actuaries

ORIGINAL SIGNED BY
Alyssa Hariton
Fellow of the Society of Actuaries
Fellow of the Canadian Institute of Actuaries

September 22, 2017
Date

September 22, 2017
Date

APPENDIX A

Plan Assets

The pension fund is held in trust by Alberta Investment Management Corporation (on behalf of the Special Forces Pension Board and the Minister of Finance) and is invested in accordance with the Board's written statement of investment policies and goals. In preparing this report, we have relied upon the audited financial statements prepared by the Board for the period from January 1, 2014 to December 31, 2016 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, including the Indexing Fund, are summarized in the following table:

($000,000's)	2014	2015	2016
January 1	$2,026.1	$2,281.0	$2,503.2
PLUS:			
Current service contributions[4]	$79.9	$90.0	$97.2
Unfunded liability special payments	$38.8	$35.2	$38.2
Investment income	$256.4	$227.6	$185.6
	$375.1	$352.8	$321.0
LESS:			
Pensions paid	$94.6	$101.0	$104.4
Refunds and transfer payments	$10.2	$12.0	$13.2
Administration expenses	$2.3	$2.4	$1.9
Investment expenses	$13.1	$15.2	$13.8
	$120.2	$130.6	$133.3
December 31	$2,281.0	$2,503.2	$2,690.9
Gross rate of return[5]	12.7%	10.0%	7.4%
Rate of return net of investment expenses[5]	12.0%	9.3%	6.8%

The balance of the Indexing Fund was $90.8 million as at December 31, 2016 and was $56.0 million as at December 31, 2013.

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.

[4] Including optional service contributions by members.
[5] Assuming mid-period cash flows.

Investment Policy

The plan's assets are invested primarily in pooled funds, with a breakdown by asset class as shown below:

($000,000's)	December 31, 2016
Fixed-income securities	
Cash and short-term securities	$35.6
Bonds, mortgages, and private debt and loans	$627.7
Total fixed-income securities	$663.3
Equities	
Canadian	$448.9
Global developed	$749.1
Private	$68.9
Emerging markets	$105.4
Global small cap	$87.2
Total equities	$1,459.5
Inflation sensitive	
Real estate	$257.3
Infrastructure	$101.0
Real return bonds	$125.8
Timberland	$45.1
Total inflation sensitive	$529.2
Strategic, tactical and currency investments	$35.8
Total investments	**$2,687.8**
Accounts receivable	$9.9
Accounts payable	($6.8)
Net assets available for benefits	**$2,690.9**

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.

Asset Class	Long-term Policy Asset Mix	Actual Asset Mix at Dec 31, 2016
Fixed-income securities		
Cash and short-term securities	1.0%	1.3%
Universe bonds, mortgages, and private debt and loans	8.0%	23.4%
Long bonds	16.0%	
Equities		
Canadian	14.0%	16.7%
Global developed	24.0%	27.9%
Private	5.0%	2.6%
Emerging markets	4.0%	3.9%
Global small cap	3.0%	3.2%
Inflation sensitive		
Real estate	10.0%	9.6%
Infrastructure and timberland	10.0%	5.4%
Real return bonds	5.0%	4.7%
Strategic, tactical and currency	N/A[6]	1.3%
Total	**100.0%**	**100.0%**

[6] In accordance with the statement of investment policies and goals, Alberta Investment Management Corporation may invest up to 5% of the value of the Plan's investments in strategic opportunities that are outside of the asset classes listed above.

APPENDIX B

Actuarial Methods and Assumptions

Valuation of Assets for Going Concern Valuation

The Board has adopted an adjusted market-related method to determine the smoothed value of assets. Under this method, investment income different from the valuation discount rate (the assumed future rate of return on plan assets, net of margin) is recognized on a straight-line basis 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 smoothed value of assets. The smoothing adjustment is the difference between the smoothed value of assets and the market value of assets.

The asset values produced by this method are related to the market value of the assets, with the advantage that, over time, the market-related asset values will tend to be more stable than market values.

At the end of 2016, the smoothing adjustment resulted in a smoothed value of assets less than the market value of assets, by $35.7 million.

The smoothed value of the assets, determined as at December 31, 2016 under the smoothing method, is $2,655.2 million.

This value was derived as follows:

Smoothed Value of Assets as at December 31, 2016 ($000,000's)

		Pre-1992	Post-1991	Total
A	Market value at December 31, 2016 (excluding Indexing Fund)	$618.6	$1,981.5	$2,600.1
	2015 investment gains (losses) different from 6.1%	$19.1	$52.0	$71.1
	2016 investment gains (losses) different from 6.1%	$4.3	$13.7	$18.0
	1/3 of 2015 excess unrealized gains (losses)	$6.4	$17.3	$23.7
	2/3 of 2016 excess unrealized gains (losses)	$2.8	$9.2	$12.0
B	Smoothing offset	$9.2	$26.5	$35.7
C	Smoothed asset value before constraints **(A – B)**	$609.4	$1,955.0	$2,564.4
	90% of market value at December 31, 2016	$556.8	$1,783.3	$2,340.1
	110% of market value at December 31, 2016	$680.5	$2,179.6	$2,860.1
D	Constrained asset value	$609.4	$1,955.0	$2,564.4
E	Indexing Fund balance		$90.8	$90.8
	Smoothed value of assets at December 31, 2016 **(D + E)**	$609.4	$2,045.8	$2,655.2

On a smoothed value basis, the average rate of return (net of investment management expenses) for the fund in 2014, 2015 and 2016 was 9.8% and on a market value basis, the average rate of return (net of investment management expenses) for the fund in 2014, 2015 and 2016 was 9.3%.

Going Concern Funding Target

Over time, the real cost of a pension plan is the excess of benefits and expenses over investment earnings. The actuarial cost method allocates this cost to annual time periods.

For purposes of the going concern valuation, we have continued to use the projected unit credit actuarial cost method. Under this method, we determine the present value of benefit cash flows expected to be paid in respect of service accrued prior to the valuation date, including ancillary benefits, based on projected final average earnings. This is referred to as the funding target. For each individual plan member, accumulated contributions with interest are established as a minimum actuarial liability.

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 smoothed value of assets and the funding target. 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.

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 during the period until the next valuation. The 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' pensionable earnings, can be expected to remain stable as long as the average age distribution 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.

For this valuation, we have used the following assumptions:

Assumption	Current Valuation	Previous Valuation
Discount rate	5.30%	6.10%
Non-investment expenses	$2.4 million	$2.6 million
Inflation	2.00%	2.30%
Pensionable earnings increases	2.00% per year for 3 years, 2.75% per year thereafter plus merit and promotion	3.00% per year plus merit and promotion
Merit and promotion	Age-related table	Age-related table
Cost-of-living increases	60% of inflation for service up to and including December 31, 2000; Based on Board policy for service after December 31, 2000	60% of inflation for service up to and including December 31, 2000; Based on Board policy for service after December 31, 2000
ITA limit / YMPE increases	3.00%	2.50%
Interest credited on member contributions	3.50%	3.50%
Retirement rates	From active service: Scale based on retirement eligibility From deferred: Age 55	From active service: Scale based on retirement eligibility From deferred: Age 55
Termination rates	Age-related table	Age-related table
Mortality rates	120% of the rates of the 2014 Public Sector Canadian Pensioners Mortality Table	120% of the rates of the 2014 Public Sector Canadian Pensioners Mortality Table
Mortality improvements	Fully generational using CPM Improvement Scale B (CPM-B)	Fully generational using CPM Improvement Scale B (CPM-B)
Termination rates	Age related table	Age related table
Percent electing pension	100%	100%
Disability rates	None	None
Proportion with eligible spouse at retirement or death before retirement	90%	90%
Dependent children on death before retirement	None	None
Spousal age difference	Male 4 years older	Male 4 years older

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

Age- and Service-Related Tables

Termination Rates

Sample assumed rates are summarized below:

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

Retirement Rates

The assumed rates of retirement from active service are outlined below.

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

* At age 60, a rate of 100% is assumed, in lieu of the above.

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 2016 earnings and assumed that such pensionable earnings will increase at 2.00% per year for 3 years and 2.75% per year thereafter, plus merit and promotion increases.

The rates of assumed merit and promotion increases, varying by age, are summarized below.

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

Payroll Growth

For purposes of calculating unfunded liability contributions as a percentage of payroll, we have assumed total payroll will grow at 2.00% per year for 3 years and 2.75% per year thereafter.

Other Methodologies

The following additional assumptions and methods were used in the valuation of the plan.

- It is assumed that indexation of deferred and immediate pensions commences one year after termination or retirement.

- The present value of additional contributions related to pre-1992 service is calculated assuming total payroll grows at the rates indicated in this report and that the total contribution rate for pre-1992 service remains at 2.75% of pensionable earnings for the entire period ending December 31, 2036.

- The calculation of current service cost expressed as a percentage of pensionable earnings excludes members with more than 35 years of service and other members who no longer accrue pensionable service under the plan.

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 smoothed value of the fund net of fees and less a margin for adverse deviations. 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, modified to include a provision for increases in market interest rates to a level higher than current historically low levels, the expected time horizon over which benefits are expected to be paid and the target asset mix specified in the Plan's investment policy
- Additional returns assumed to be achievable due to active equity management equal to the fees related to active equity management. Such fees were determined by the difference between the provision for total investment expenses and the hypothetical fees that would be incurred for passive management of all assets
- Implicit provision for investment expenses determined based on historical expenses paid from the fund
- A margin for adverse deviations of 1.00%

The discount rate was developed as follows:

Assumed investment return	6.30%
Additional returns for active management	0.60%
Investment expense provision	(0.60%)
Margin for adverse deviation	(1.00%)
Net discount rate	5.30%

The Board recognizes that a portion of this future return is expected to come from equity risk premiums (equity returns above bond yields), and has considered the expected additional risk and volatility when setting the discount rate.

Non-investment expenses
The assumption is based on expected administrative expenses for 2017 provided by representatives of the Special Forces Pension Plan.

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

Pensionable Earnings Increases
The assumption is based on the underlying inflation assumption increased by our best estimate of additional expected salary increases and future merit and promotional increases, with input from the Board regarding future salary expectations. The merit and promotion scale was derived from Plan experience.

Cost-of-Living Increases
The assumption is based on the Plan terms.

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.

Interest Credited on Member Contributions
The assumption is based on the Plan terms and 5-year personal term deposit rates over the last several years.

Retirement Rates
The assumption is based on Plan experience. Subsequent experience has been consistent with these rates.

Termination Rates
The assumption is based on Plan experience.

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. After considering plan-specific characteristics, such as the type of employment, the industry experience, pension and employment income for the plan members, and data in the CPM study, it was determined to use 120% of the CPM public sector mortality rates.

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 Canadian Pensioners Mortality (CPM) study published by the Canadian Institute of Actuaries in February 2014 included CPM Improvement Scale B (CPM-B).

A report released by the Canadian Institute of Actuaries Task Force on Mortality Improvement (Task Force) in draft form in April 2017 and in final form on September 20, 2017 provides an analysis of the rate of mortality improvement for the Canadian population and provides a proposed new mortality improvement scale (MI-2017) for the purpose of reflecting future mortality improvement in Canadian actuarial work. In particular, MI-2017 includes different historical improvement rates compared to CPM-B and reflects higher long-term mortality improvement rate assumptions than CPM-B. MI-2017 would generally result in higher life expectancies than CPM-B. We will review the mortality improvement scale in a future valuation.

For the present valuation, we have continued to use the CPM-B scale without adjustment, which is a reasonable outlook for future mortality improvement.

Based on this assumption, the life expectancy of a member aged 65 at the valuation date is 21.5 years for males and 23.3 years for females.

Percent Electing Pension

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

Disability Rates

Given the number of members in approved LTD plans and the small number of disability claims experienced by the plan, use of a different assumption would not have a material impact on the valuation.

Eligible Spouse

The assumption is based on Plan experience (actual status used for retirees).

Dependent Children

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

Spousal Age Difference

The assumption is based on an industry standard showing males are typically 4 years older than their spouse.

Actuarial Valuation Methods and Assumptions — Solvency 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.

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

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

The Standards of Practice of the Canadian Institute of Actuaries require that the scenario upon which the solvency valuation is based be postulated. We have considered that members under 55 years of age and not eligible to retire on that date would be entitled to a deferred pension payable from age 55. Other members would be entitled to an immediate pension. For each individual Plan member, accumulated contributions with interest plus 50% of the present value of the accrued pension are established as a minimum actuarial liability. Indexing for post-2000 service is assumed to be limited to the level that may be provided by the market value of the Indexing Fund.

No benefits payable on plan wind-up under this scenario were excluded from our calculations. There are no benefits under the Plan contingent upon the circumstances of the plan wind-up. The plan wind-up is assumed to occur in circumstances that maximize the actuarial liability.

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 December 31, 2016.

Benefits provided as an immediate or deferred pension are assumed to be settled through the purchase of annuities based 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, 2016 and December 30, 2017* (the "Educational Note"), we have assumed that an appropriate proxy for estimating the cost of such purchase is using the yield on the long-term Government of Canada Real Return bonds, reduced by 0.6%.

The Educational Note provides guidance on estimating the cost of annuity purchases assuming a typical group of annuitants. That is, no adjustments for sub- or super-standard mortality are considered. However, it is expected that insurers will consider plan experience and certain plan-specific characteristics when determining the mortality basis for a particular group. The Educational Note states that the actuary would be expected to make an adjustment to the regular annuity purchase assumptions where there is demonstrated substandard or super-standard mortality or where an insurer might be expected to assume so. In such cases, the actuary would be expected to make an adjustment to the mortality assumption in a manner consistent with the underlying annuity purchase basis. Given the uncertainty surrounding the actual mortality basis that would be typical of a group annuity purchase, it is reasonable to assume that there is a range of bases that can be expected not to be materially different from the actual mortality basis. Therefore, an adjustment to the regular annuity purchase assumptions would be warranted when the plan's assumed basis falls outside that range.

In this context, we have determined that no adjustment to the mortality rates used in the regular annuity purchase assumptions is required.

We have not included a margin for adverse deviation in the solvency valuation.

The assumptions are as follows:

Form of Benefit Settlement Elected by Member	
Lump sum	100% of active members under 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.
For Benefits Assumed to be Settled through a Lump Sum	
Interest rate:	2.20% per year for 10 years, 3.50% per yaer thereafter
Mortality rates:	100% of the rates of the 2014 Canadian Pensioners Mortality Table (CPM2014) with fully generational improvements using CPM Scale B
Cost-of-living adjustments:	0.69% per year for 10 years, 1.27% per year thereafter, in respect of pre-2001 service Based on value of Indexing Fund for post-2000 service
For Benefits Assumed to be Settled through the Purchase of an Annuity	
Interest rate:	3.18% per year based on a duration of 12.68 years determined for the liabilities assumed to be settled through the purchase of a non-indexed annuity.
Mortality rates:	100% of the rates of the 2014 Canadian Pensioners Mortality Table (CPM2014) with fully generational improvements using CPM Scale B
Adjustment to mortality rates:	No adjustment
Cost-of-living adjustments:	1.94% in respect of pre-2001 service Based on value of Indexing Fund for post-2000 service

Other Assumptions	
Final average earnings:	Based on actual pensionable earnings over the averaging period
Family composition:	Same as for going-concern valuation
Termination expenses:	$1.0 million

To determine the solvency 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, or 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.

The provision for termination expenses payable from the Plan's assets is not dependent upon the plan sponsors being solvent or not 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.

Although the termination expense assumption is a best estimate, 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 solvency 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 solvency 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, 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 solvency valuation.

APPENDIX C

Membership Data

Analysis of Membership Data

The actuarial valuation is based on membership data as at December 31, 2016, provided by the Board 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 the 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 tests, where data was still unreliable or unavailable, assumptions were required to complete the data. These assumptions are summarized below:

Description	Assumption
Missing Earnings Information	For those members missing salary information in 2016, annualized salary was set to last year's annualized salary increased appropriately using the previous valuation's salary increase assumption. For members with no prior salary information, pay was set to the average pay for the active membership.
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 who had not met the vesting requirements of the Plan upon their termination of employment are considered to be hold-on deposit members.
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.

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.

	31.12.2016	31.12.2013
Active Members		
· Number	4,416	4,180
· Total unlimited pensionable earnings for following year[7]	$478,294,100	$420,651,800
· Average unlimited pensionable earnings for following year[7]	$108,300	$100,600
· Total limited pensionable earnings for following year	$476,109,000	$419,361,300
· Average limited pensionable earnings for following year	$107,800	$100,300
· Average years of pensionable service	11.5 years	11.2 years
· Average age	40.1 years	39.5 years
· Average accumulated contributions with interest[8]	$110,000	$107,700
Deferred Pensioners[9]		
· Number	106	166
· Total annual deferred pension	$1,987,000	$1,087,600
· Average annual deferred pension	$18,700	$6,600
· Average age	45.8 years	40.8 years
Hold-on-Deposit Members		
· Number	122	12
· Average reserve held on deposit	$14,500	$4,100
· Average age	40.8 years	59.0 years
Pensioners and Survivors[9]		
· Number	2,533	2,341
· Total annual pension in payment	$105,826,500	$92,313,900
· Average annual pension in payment	$41,800	$39,400
· Average age	66.2 years	64.9 years

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

[8] Includes all member contributions except additional contributions towards pre-1992 unfunded liability.

[9] For purposes of this table, pensions at December 31, 2013 do not include cost-of-living adjustments granted January 1, 2014 but pensions at December 31, 2016 do include cost-of-living adjustments granted January 1, 2017.

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

	Active Members	Deferred Pensioners[10]	Pensioners and Survivors	Total
Number at December 31, 2013	4,180	178	2,341	6,699
New entrants	656			656
Retirements	(244)	(4)	248	
Terminations of employment				
- Held on deposit	(32)	32		
- Deferred pensions	(46)	46		
- Refunds and lump sum transfer payments	(89)	(26)		(115)
Deaths				
- With survivor pension	(3)		(74)	(77)
- Without survivor pension	(5)		(55)	(60)
Expiry of guarantee			(4)	(4)
New survivor pensions			77	77
Data adjustment	(1)	1		
Number at December 31, 2016	4,416	227	2,533	7,176

[10] Including hold-on-deposit members

The distribution of the active members by age and pensionable service (and including 2017 projected unlimited annualized earnings for all members) as at December 31, 2016, is summarized as follows:

	Years of Pensionable Service								
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35+**	**Total**
Under 25	87	1							88
	$75,040	*							$75,365
25 - 29	386	108	2						496
	$81,384	$102,430	*						$86,087
30 - 34	282	395	98						775
	$86,388	$104,567	$113,931						$99,136
35 - 39	112	326	349	42					829
	$85,243	$107,043	$113,759	$119,478					$107,555
40 - 44	63	221	280	317	38				919
	$86,486	$107,560	$113,237	$120,409	$124,410				$112,974
45 - 49	16	140	135	236	175	40			742
	$88,425	$108,727	$114,504	$119,994	$127,898	$135,048			$118,864
50 - 54	3	47	44	72	92	124	15		397
	$128,096	$110,049	$114,019	$119,463	$123,053	$133,538	$140,018		$123,815
55 - 59	1	13	5	13	13	30	12	45	132
	*	$120,499	$111,666	$114,708	$115,253	$130,425	$144,136	$131,246	$127,902
60+		3		2		2	6	25	38
		$204,165		*		*	$177,458	$125,723	$129,238
Total	950	1,254	913	682	318	196	33	70	4,416
	$83,494	$106,627	$113,723	$119,956	$125,562	$133,230	$137,414	$129,274	$108,309

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

The distribution of the inactive members (pensioners, survivors and deferred members) by age and average annual pension (including January 1, 2017 COLA) as at December 31, 2016, is summarized as follows:

Age	Deferred Pensioners		Pensioners and Survivors	
	Number	**Average Pension**	**Number**	**Average Pension**
Under 30				
30 - 34	4	$17,088	1	*
35 – 39	14	$14,870		
40 – 44	32	$14,185	5	$17,697
45 – 49	28	$19,075	36	$54,919
50 – 54	21	$25,310	194	$55,165
55 – 59	5	$17,823	463	$49,963
60 – 64	2	*	569	$48,689
65 – 69			489	$35,500
70 – 74			342	$33,377
75 – 79			195	$32,438
80 – 84			150	$30,447
85 – 89			74	$29,239
90 – 94			15	$25,113
95 +				
Total	106	$18,745	2,533	$41,779

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

APPENDIX D

Summary of Plan Provisions

Mercer has used and relied on the plan documents, including amendments and interpretations of plan provisions, supplied by the Board and Alberta Pensions Services Corporation. 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 December 31, 2016. Since the previous valuation, the Plan has not been amended.

The following is a summary of the plan's main provisions in effect on December 31, 2016. This summary is not intended as a complete description of the plan.

Origin	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 determine 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.
Normal Retirement Pension	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.
Pensionable Earnings	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 $162,312 in 2017).
Death Benefits	***Death After Retirement*** If the member does not have a spouse at retirement, the normal form of 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 of 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 Benefits (Cont'd)

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:

Pre-1992 Service	**Benefit**
- Not vested	- Refund of the member's contributions with interest
- Vested	- Deferred pension commencing at age 55 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 commencing at age 55 plus excess contributions OR - Transfer of 100% of commuted value plus excess contributions

Disability Benefits	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 credited service.
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 for Funding Purposes of the *Special Forces Pension Plan*, as at December 31, 2016, on behalf of Alberta Pensions Services Corporation, I hereby certify that, to the best of my knowledge and belief:

- The membership data provided to the actuary is reasonably free of material misstatement with respect to members with benefit entitlements under the terms of the plan for service up to December 31, 2016.
- All events that I am aware of subsequent to December 31, 2016, which I believe would have a material impact on the results of the valuation, have been communicated to the actuary.

ALBERTA PENSIONS SERVICES CORPORATION

September 21, 2017	ORIGINAL SIGNED BY
Date	Signed
	Tennille Willis
	Name

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Mercer (Canada) Limited
222 - 3rd Avenue SW, suite 1200
Calgary, Alberta T2P 0B4
1 403 269 4945