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ACTUARIAL REPORT

on the Pension Plan for the ROYAL CANADIAN MOUNTED POLICE

as at 31 March 2011

Canada

To obtain a copy of this report, please contact:

Office of the Chief Actuary
Office of the Superintendent of Financial Institutions Canada
16th Floor, Kent Square Building
255 Albert Street
Ottawa, Ontario
K1A 0H2
Facsimile: **613-990-9900**
E-mail: **oca-bac@osfi-bsif.gc.ca**

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23 March 2012

The Honourable Tony Clement, P.C., M.P.
President of the Treasury Board
Ottawa, Canada
K1A 0R5

Dear Minister:

Pursuant to section 6 of the *Public Pensions Reporting Act*, I am pleased to submit the report on the actuarial review as at 31 March 2011 of the Royal Canadian Mounted Police pension plan. This actuarial review is in respect of pension benefits and contributions which are defined by Parts I, III, and IV of the *Royal Canadian Mounted Police Superannuation Act*, the *Special Retirement Arrangements Act* and the *Pension Benefits Division Act*.

Yours sincerely,

Jean-Claude Ménard

Jean-Claude Ménard, F.S.A., F.C.I.A.
Chief Actuary
Office of the Chief Actuary

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I. Executive Summary

This actuarial report on the pension plan for the Royal Canadian Mounted Police (RCMP) was made pursuant to the *Public Pensions Reporting Act* (PPRA).

This actuarial valuation is as at 31 March 2011 and is in respect of pension benefits and contributions defined by Parts I, III, and IV of the *Royal Canadian Mounted Police Superannuation Act* (RCMPSA), the *Special Retirement Arrangements Act*, which covers the Retirement Compensation Arrangement (RCA) and by the *Pension Benefits Division Act* (PBDA).

The previous actuarial report was made as at 31 March 2008. The date of the next periodic review is scheduled to occur no later than 31 March 2014.

A. Purpose of Actuarial Report

The purpose of this actuarial valuation is to determine the state of the RCMP Superannuation Account, Pension Fund and Retirement Compensation Arrangements (RCA) Account, as well as to assist the President of the Treasury Board in making informed decisions regarding the financing of the government's pension benefit obligation.

B. Valuation Basis

There have been no changes to the plan provisions since the previous valuation, except for the adopted increased member contribution rate effective January 2012. This report is based on pension benefit provisions enacted by legislation, summarized in Appendices 1 and 2.

The financial data on which this valuation is based are composed of invested assets (Pension Fund) which the government has earmarked for the payment of benefits for service since 1 April 2000 and accounts available for benefits established to track government's pension benefit obligations such as the Superannuation Account, for service prior to 1 April 2000, and the RCA Account for benefits in excess of those that can be provided under the *Income Tax Act* limits for registered pension plans. These pension assets and accounts available for benefits are summarized in Appendix 3. The membership data is summarized in Appendix 4.

The valuation was prepared using accepted actuarial practices in Canada, methods and assumptions which are summarized in Appendices 5 to 8.

All actuarial assumptions used in this report are best-estimate assumptions. They are individually reasonable for the purposes of the valuation at the date of this report.

Actuarial assumptions used in the previous report were revised based on economic trends and demographic experience. A complete description of the assumptions is shown in Appendices 6 to 8. The following table presents a summary of the ultimate economic assumptions used in this report and a comparison with those used in the previous report.

Table 1 Ultimate Best-Estimate Economic Assumptions

	31 March 2011 Valuation	31 March 2008 Valuation
Assumed level of inflation	2.3%	2.4%
Real increase in average pensionable earnings	1.2%	1.1%
Real rate of return on the Pension Fund	4.1%	4.3%
Real rate of return on the Superannuation Account	2.7%	2.8%

C. Main Findings

The proposed amounts to be credited to (or debited from) the accounts and the Pension Fund are shown on a calendar year basis in this section beginning with calendar year 2013 which is the first calendar year that follows the expected tabling of this report. Valuation results on a plan year[1] basis are shown in Section II.

1) RCMPSA - Superannuation Account (Service prior to 1 April 2000)

As at 31 March 2011, the total of the amounts available for benefits payable under the Account is $12,856 million and the actuarial liability for service prior[2] to 1 April 2000 is $12,574 million. The total of the amounts available for benefits is less than 110% of the corresponding actuarial liability; it is 102% of the actuarial liability. The excess of the total of the amounts available for benefits over the actuarial liabilities is $282 million.

2) RCMPSA - Pension Fund (Service since 1 April 2000)

a) Current Service Cost[3]

The RCMPSA total current service cost, borne jointly by the contributors and the government, is $467 million for calendar year 2013. The estimated members' contributions are $155 million and the estimated government contributions are $312 million for calendar year 2013. The Pension Fund administrative expenses are $3 million (included in the total current service cost) for calendar year 2013. The following table shows the projected current service cost expressed as a percentage of the expected pensionable payroll[4] for the three calendar years following the expected laying date of this report. The ratio of government current service cost to contributor current service cost is also shown.

Projected current service costs shown in this table are based on the member contribution rates shown in Section II-C-2.

Table 2 RCMPSA Current Service Cost on a Calendar Year Basis

Calendar	Current Service Cost As a percentage of pensionable payroll			Ratio of Government to Contributors Current Service Cost
Year	Contributors	Government	Total	
2013	7.47	15.08	22.55	2.02
2014	7.67	14.84	22.51	1.93
2015	7.72	14.72	22.44	1.91

1 Any reference to a given *plan year* in this report should be taken as the 12-month period ending 31 March of the given year.
2 The actuarial liability for service prior to 1 April 2000 refers to the actuarial liability for service accrued prior to that date except for service elections since 1 April 2000 that are deemed to be service accrued since that date.
3 Also called normal cost.
4 Pensionable payroll means the aggregate of pensionable earnings of all contributors with less than 35 years of service.

b) Financial position and amortization of surplus (deficit)

As at 31 March 2011, the smoothed actuarial value of assets in respect of the Pension Fund is $4,060 million and the actuarial liability is $4,623 million, resulting in an actuarial deficit of $563 million.

In accordance with the RCMPSA, the deficit of $493 million could be amortized in 15 equal annual special payments of $54[1] million beginning on 31 March 2013.

c) Non-permitted surplus

If there exists in the opinion of the President of the Treasury Board a non-permitted surplus[2] in the Pension Fund, any future contributions to the Fund may be reduced in a manner determined by the President or the non-permitted surplus may be paid out of the Fund and into the Consolidated Revenue Fund. As at 31 March 2011, a non-permitted surplus does not exist.

3) RCA

As at 31 March 2011, the total of the amounts available for benefits payable under the RCA is $58 million and the actuarial liability is $38 million resulting in an actuarial excess of $20 million.

The RCA total current service cost, borne jointly by the contributors and the government, is $1.3 million for calendar year 2013. The estimated members' contributions are $0.2 million and the estimated government contributions are $1.1 million for calendar year 2013.

The following table shows the projected current service cost expressed as a percentage of the expected pensionable payroll[3] for the three calendar years following the expected laying date of this report. The ratio of government current service cost to contributor current service cost is also shown.

Projected current service costs shown in this table are based on the member contribution rates shown in Section II-C-2.

Table 3 RCA Current Service Costs on a Calendar Year Basis

Calendar	Current Service Cost As a percentage of pensionable payroll			Ratio of Government to Contributors Current Service Cost
Year	Contributors	Government	Total	
2013	0.01	0.05	0.06	5.0
2014	0.01	0.05	0.06	5.0
2015	0.01	0.05	0.06	5.0

1 The actuarial smoothing adjustment of $70 million is ignored to calculate the amortization payments. More information is provided on page 11.

2 A non-permitted surplus exists when the amount by which the value of assets exceeds liabilities for service since 1 April 2000 is greater than the lesser of (a) and (b), where:
(a) is 20% of the amount of liabilities for service since 1 April 2000, and
(b) is the greater of (i) and (ii) where:
(i) is twice the estimated amount, for the calendar year following the date of that report, of the total of
(A) the current service cost contributions that would be required of contributors, and
(B) the current service cost contributions that would be required of the government, and
(ii) is 10% of the amount of liabilities for service since 1 April 2000.

3 Pensionable payroll means the aggregate of pensionable earnings of all contributors with less than 35 years of service.

II. Valuation Results

This report is based on pension benefit provisions enacted by legislation, summarized in Appendices 1 and 2, and the financial and membership data, summarized in Appendices 3 and 4. The valuation was prepared using accepted actuarial practices in Canada, methods and assumptions summarized in Appendices 5 to 8. Emerging experience, differing from the corresponding assumptions, will result in gains or losses to be revealed in subsequent reports.

Projections of the Superannuation Account and Pension Fund financial position are shown in Appendices 9 and 10, respectively.

A. RCMPSA - Financial Position

Beginning on 1 April 2000, government and employee contributions to the RCMPSA pension plan are no longer credited to the RCMP Superannuation Account. Rather, they are credited to the RCMP Pension Fund, and an amount equal to contributions net of the benefits paid and the administration expenses is transferred to the Public Sector Pension investment Board (PSPIB) and invested in the financial markets. The valuation results of this section show the financial position for both RCMPSA financing arrangements as at 31 March 2011. The results of the previous valuation are also shown for comparison purposes.

Table 4 Balance Sheet – Superannuation Account
(Service prior to 1 April 2000)
($ millions)

	As at 31 March 2011	As at 31 March 2008
Recorded Account balance	12,847	11,989
Present value of prior service contributions	9	13
Total	12,856	12,002
Actuarial Liability		
Regular Members		
Contributors	3,380	3,697
Retirement pensioners	7,060	6,040
Disability pensioners	694	553
Surviving dependants	400	309
Civilian Members		
Contributors	315	364
Retirement pensioners	480	374
Disability pensioners	72	57
Surviving dependants	27	21
Administrative expenses	90	110
Pension modernization costs	56	-
Total Actuarial Liability	12,574	11,525
Actuarial Excess/(Shortfall)	282	477

Table 5 Balance Sheet – Pension Fund
(Service since 1 April 2000)
($ millions)

	As at 31 March 2011	As at 31 March 2008
Assets		
Market value of assets	4,114	2,798
Actuarial smoothing adjustment	(70)	4
Present value of prior service contributions	16	19
Total	4,060	2,821
Actuarial Liability		
Regular Members		
Contributors	3,234	2,040
Retirement pensioners	694	353
Disability pensioners	128	70
Surviving dependents	13	6
Civilian Members		
Contributors	427	263
Retirement pensioners	84	37
Disability pensioners	14	6
Surviving dependants	1	1
Pension modernization cost	28	-
Total Actuarial Liability	4,623	2,776
Actuarial Surplus/(Deficit)	(563)	45

The actuarial smoothing adjustment to the market value of assets is not taken into account to calculate the special payment to amortize the actuarial deficit. Therefore, the actuarial deficit of $493 million could be amortized in 15 equal annual payments of $54 million beginning on 31 March 2013 such that the projected value of assets would be equal to the projected value of liabilities in 15 years.

The actuarial smoothing adjustment of $70 million will disappear over the next five years as the unrecognized investment gains will be gradually recognized.

B. RCMPSA – Reconciliation of the Changes in Financial Position

This section reconciles the changes in the financial position in respect of the Superannuation Account and the Pension Fund shown in this valuation using the main elements responsible for the changes. The items shown are explained afterward.

Table 6 Reconciliation of RCMPSA Financial Position
($ millions)

	Superannuation Account Actuarial Excess/ (Shortfall)	Pension Fund Surplus/ (Deficit)
As at 31 March 2008	477	45
Recognized investment losses as at 31 March 2008	-	(4)
Expected interest on initial financial position	105	8
Data corrections	(5)	(10)
Service pay improvements	(114)	(53)
Actuarial smoothing adjustment	-	(70)
Experience gains and losses	173	(247)
Revision of actuarial assumptions	(298)	(204)
Pension modernization cost recognition	(56)	(28)
As at 31 March 2011	282	(563)

1. **Recognized investment losses as at 31 March 2008**
   An actuarial asset valuation method that minimizes the impact of short-term fluctuations in the market value of assets is used, causing the actuarial value of the Pension Fund assets to be $4 million more than their market value in the previous valuation report.

2. **Expected Interest on Financial Position**
   The expected interest to 31 March 2011 on the Account actuarial excess of $477 million as at 31 March 2008 amounted to $105 million. The expected interest to 31 March 2011 on the resulting Pension Fund actuarial surplus of $41 million as at 31 March 2008, after recognizing the recognized investment losses items, amounted to $8 million. These amounts of interest were based on the Account and Fund yields projected in the previous report for the three-year intervaluation period.

3. **Data Corrections**
   The correction of data (such as coding of status, salaries and pension amounts) upon which the 2008 report was based resulted in an increase to the Superannuation Account actuarial liability of $5 million and an increase to the Pension Fund actuarial liability of $10 million as at 31 March 2011.

4. **Service Pay Improvements**
   There were improvements made by the RCMP in annual service pay from 1.0% to 1.5% for every five years of service. These improvements have increased the Account actuarial liability by $114 million and the Fund actuarial liability by $53 million.

5. **Actuarial Smoothing Adjustment**
   An asset valuation method that minimizes the impact of short-term fluctuations is used to determine the value of the Pension Fund assets. Appreciation of investment gains or losses is recognized at the rate of 20% per year. The smoothing adjustment as at 31 March 2011 decreases the surplus by $70 million.

6. Experience Gains and Losses

Since the previous valuation, experience gains and losses have increased the Superannuation Account actuarial excess by $173 million and have decreased the Pension Fund expected actuarial surplus by $247 million. The main items are described in the following table.

Table 7 Experience Gains and Losses
($ millions)

	Superannuation Account	Pension Fund
Demographic assumptions(i)		
Retirements	56	34
Seniority and promotional increases	(54)	(35)
Mortality	(18)	(4)
Disability	9	3
Withdrawals	-	(3)
Probability of an eligible spouse	1	1
Age of spouse	2	-
	(4)	(4)
Interest and investment earnings (ii)	(21)	(277)
Pension indexation (iii)	172	14
Salary increases (iv)	37	39
Cost/Contributions difference (v)	-	(12)
Administrative expenses (vi)	(7)	(4)
PBDA payments (vii)	(5)	(4)
YMPE increases (viii)	(1)	(1)
Miscellaneous	2	2
Net experience gains (losses)	173	(247)

(i) The net impact of the demographic experience increased the Account actuarial liability by $4 million and also increased the Fund actuarial liability by $4 million. The most important items are as follows:

- The number of retirements was much lower than expected during the intervaluation period (about 30% less than expected). The Account actuarial liability decreased by $56 million and the Fund actuarial liability decreased by $34 million.
- In the last three years, promotional and salary increases were higher than expected at almost all service durations. The Account actuarial liability increased by $54 million and the Fund actuarial liability increased by $35 million.
- Mortality experience was close to expected except for disabled pensioners where it was 50% lower than expected. The Account actuarial liability increased by $18 million and the Fund actuarial liability increased by $4 million.

(ii) The rates of interest credited to the Account were marginally less than the corresponding projected Account yields in the previous valuation; consequently the experience loss was $21 million. The global economy and financial markets took a turn for the worst during plan year 2009, showing a -22.7% return, and even though the markets rebounded during plan years 2010 and 2011 with positive returns of

21.5% and 14.5%, the Pension Fund experienced an investment loss of $277 million over the three-year intervaluation period.

(iii) In the previous valuation, it was assumed that pension indexation would be 2.0% as at January 2010 and 2011; it was only 0.5% and 1.4% respectively. The Account actuarial liability decreased by $172 million and the Fund actuarial liability decreased by $14 million.

(iv) A general salary increase of 1.5% was granted to Regular Members as at 1 January 2011 which was 1.3% less than projected in the previous valuation. This lower salary increase caused the Account actuarial liability to decrease by $37 million and the Fund actuarial liability to decrease by $39 million.

(v) A decrease of $12 million to the Fund actuarial surplus resulted from the actual government contributions in plan years 2009 and 2010 being less than the government portion of the current service cost shown in the cost certificate of the previous report.

(vi) Administrative expenses were projected to be 0.40% of pensionable payroll in the last valuation; they were on average 0.57% of pensionable payroll over the last three plan years due to the expenses of the pension modernization project for plan years 2010 and 2011. These additional expenses are discussed in item 8 of this section.

(vii) The underlying assumptions used for the valuation of the payments made under the PBDA being different than those used for funding purposes caused an experience loss of $5 million for the Account and an experience loss of $4 million for the Fund.

(viii) Over the three-year intervaluation period the Year's Maximum Pensionable Earnings were, in aggregate, 1.2% lower than assumed in the previous valuation.

7. Revision of Actuarial Assumptions

Actuarial assumptions were revised based on economic trends and demographic experience as described in Appendices 6 and 7. This revision has increased the Superannuation Account actuarial liability by $298 million and increased the Pension Fund actuarial liability by $204 million. The impact of these revisions is shown in the following table and the most important items are discussed thereafter.

Table 8 Revision of Actuarial Assumptions
($ millions)

Assumptions	Superannuation Account	Pension Fund
Economic assumptions (i)	(242)	(183)
Mortality improvement factors (ii)	(86)	(21)
Pensionable retirements (iii)	30	39
Seniority and promotional (iv)	(9)	(33)
Mortality of widow(er)s	(6)	(1)
Mortality of members	(4)	(1)
Administrative expenses	15	-
Disability	1	(2)
Population growth	3	-
Withdrawals	-	(2)
Net impact of revisions	(298)	(204)

(i) The net impact of the change in economic assumptions increased the Account actuarial liability by $242 million and increased the Fund actuarial liability by $183 million. The ultimate economic assumptions made in the previous valuation were revised as follows:

- ultimate level of inflation lowered from 2.4% to 2.3%;
- ultimate real increase in average earnings increased from 1.1% to 1.2%;
- ultimate real rate of return on the Pension Fund lowered from 4.3% to 4.1%;
- ultimate real rate of return on the Account lowered from 2.8% to 2.7%.

(ii) For both males and females, the longevity improvement factors are higher than those used in the previous valuation except at advanced ages. These revised longevity improvement factors increased the Account liability by $86 million and increased the Fund liability by $21 million.

(iii) Pensionable retirement rates for Regular Members were decreased in this valuation to reflect that Regular Members are delaying retirement. These revised pensionable retirement rates decreased the Account liability by $30 million and decreased the Fund liability by $39 million.

(iv) The seniority and promotional salary increase assumption for Regular Members was increased at service durations 4 to 25. This revised assumption increased the Account liability by $9 million and increased the Fund liability by $33 million.

8. Pension Modernization Costs

A specific project is underway to bring the administration of the RCMP pension plan at Public Works Government Services Canada. This project is expected to be completed by plan year 2015 for the RCMP. The expected costs, provided by the RCMP management, are to be debited directly from the Superannuation Account and the Pension Fund. The capitalized net impact is a reduction of $56 million in the Account and of $28 million in the Fund.

C. RCMPSA - Cost Certificate

1. Current Service Cost

The details of the current service cost for plan year 2012 and reconciliation with the 2009 current service cost are shown below.

Table 9 Current Service Cost for Plan Year 2012
($ millions)

Member required contributions	134
Government current service cost	300
Total current service cost	434
Expected pensionable payroll	1,931
Total current service cost as % of expected pensionable payroll	22.48%

Table 10 Reconciliation of RCMPSA Current Service Cost
(% of pensionable payroll)

For plan year 2009	20.97
Expected current service cost change	(0.18)
Data corrections	0.01
Improvements in annual service pay	0.22
Experience gains and losses	
New entrants	0.14
Retirement	0.10
Seniority and promotional	0.01
Disability	0.01
Withdrawals	(0.01)
Miscellaneous	0.02
Changes in assumptions	
Economic assumptions	0.97
Seniority and promotional	0.25
Pensionable retirements	(0.22)
Mortality improvement factors	0.10
Withdrawals	0.03
Administrative expenses	0.02
Disability	0.02
Mortality	0.01
New entrants	0.01
For plan year 2012	22.48

The RCMPSA current service cost is the weighted average of the separate current service costs for Regular Members and Civilian Members. For plan year 2012, the current service cost of 22.48% of pensionable payroll is composed of 22.80% for Regular Members and 20.63% for Civilian Members. The difference in current service costs is mainly attributable to the more advantageous early retirement provisions available to Regular Members.

2. Projection of Current Service Cost

The current service cost is borne jointly by the members and the government. The member contribution rates have been changed since the last valuation, they are as follows:

Member Contribution Rates

Calendar Year	Below YMPE	Above YMPE
2011	5.8%	8.4%
2012	6.2%	8.6%
2013	6.6%	8.8%
2014+	6.9%	9.0%

The following RCMPSA current service costs in dollar amount are also expressed as a percentage of the projected pensionable payroll in each given plan year. Current service costs are shown below on a plan year basis; member contributions and the government current service costs are also shown on a calendar year basis in the Executive Summary.

Table 11 Projection of Current Service Cost

Plan Year	Current Service Cost ($ millions) Members	Government	Total	Current Service Cost As a % of Pensionable Payroll Members	Government	Total	Portion borne by Members : Government
2012	134	300	434	6.94	15.54	22.48	31% : 69%
2013	145	307	452	7.22	15.29	22.51	32% : 68%
2014	158	314	472	7.55	15.01	22.56	33% : 67%
2015	169	324	493	7.71	14.78	22.49	34% : 66%
2016	177	337	514	7.72	14.70	22.42	34% : 66%
2021	224	436	660	7.72	15.04	22.76	34% : 66%
2026	281	560	841	7.70	15.35	23.05	33% : 67%

3. Administrative Expenses

Based upon the assumptions described in section B of Appendix 7, the Fund administrative expenses are included in the total current service costs. As for the previous report, the expected administration expenses exclude the PSPIB operating expenses as these are recognized implicitly through a decrease in the real rate of return. The Fund administrative expenses are estimated to be $2.3 million for plan year 2012, increasing to $2.6 and $2.8 million for plan years 2013 and 2014, respectively.

The Account administrative expenses have been capitalized and are shown as a liability in the balance sheet.

4. Contributions for Prior Service Elections

Contributions for prior service elections are based upon the valuation data and the assumptions described in section B of Appendix 7, they were estimated as follows:

Table 12 Estimated Contributions for Prior Service
($ millions)

	Account		Fund	
Plan Year	Members	Government	Members	Government
2012	0.6	0.6	1.0	2.2
2013	0.6	0.6	1.1	2.3
2014	0.5	0.5	1.2	2.4

D. RCMPSA - Sensitivity to Variations in Key Assumptions

The information required by statute, which is presented in the main report, has been derived using best-estimate assumptions regarding future demographic and economic trends. The key best-estimate assumptions, i.e. those for which changes within a reasonable range have the most significant impact on the long-term financial results, are described in Appendices 6 and 7. Given the length of the projection period and the number of assumptions required, it is unlikely that the actual experience will develop precisely in accordance with best-estimate assumptions that underlie the actuarial estimates. Individual sensitivity tests have been performed that consist of projections of the pension plan's liabilities and current service cost using alternative assumptions.

The following table measures the effect on the plan year 2012 current service cost, the liabilities for service prior to 1 April 2000 and for service since that date, if key economic assumptions are varied by one percentage point per annum from plan year 2012 onward.

Table 13 Sensitivity of Valuation Results

	Current Service Cost as a percentage of pensionable payroll		Actuarial Liability ($ million) Service prior to April 2000		Service since April 2000	
Assumption(s) Varied	2012	Effect		Effect		Effect
None (i.e. current basis)	22.48	None	12,574	None	4,623	None
Investment yield						
- if 1% higher	17.50	(4.98)	10,998	(1,576)	3,809	(814)
- if 1% lower	29.21	6.73	14,549	1,975	5,714	1,091
Inflation						
- if 1% higher	25.84	3.36	14,282	1,708	5,280	657
- if 1% lower	19.68	(2.80)	11,166	(1,408)	4,102	(521)
Salary, YMPE and MPE						
- if 1% higher	25.10	2.62	12,711	137	4,937	314
- if 1% lower	20.29	(2.19)	12,445	(129)	4,350	(273)
All economic assumptions						
- if 1% higher	22.06	(0.42)	12,497	(77)	4,547	(76)
- if 1% lower	22.94	0.46	12,652	78	4,704	81

The differences between the results above and those shown in the valuation can also serve as a basis for approximating the effect of other numerical variations in one of the key assumptions to the extent that such effects are linear.

E. RCA - Valuation Results

The valuation result of this section show the financial position of the RCA financing arrangements as at 31 March 2011. The results of the previous valuation are also shown for comparison purposes.

1. RCA Balance Sheet

Table 14 RCA Balance Sheet
($ millions)

	As at 31 March 2011	As at 31 March 2008
Recorded Account balance	29	24
Tax credit (CRA refundable tax)	29	23
Total	58	47
Actuarial liability		
Contributors	17	16
Pensioners	21	18
Total actuarial liability	38	34
Actuarial Excess/(Shortfall)	20	13

The sum of the recorded balance of the RCA Account and the tax credit (CRA refundable tax) is $58 million; it exceeds the actuarial liability of $38 million by 53% as at 31 March 2011 (38% as at 31 March 2008).

2. RCA Current Service Cost

The projected current service cost, borne jointly by the contributors and the government, of 0.09% for plan year 2012 calculated in the previous valuation has decreased by 0.03% to 0.06% of pensionable payroll in this valuation. The RCA current service cost is estimated to remain constant at 0.06% of pensionable payroll for the next three plan years.

The following table shows the estimated RCA current service cost for the next three plan years in millions of dollars.

Table 15 RCA Current Service Cost
($ millions)

Plan Year	Contributors	Government	Total
2012	0.2	1.0	1.2
2013	0.2	1.0	1.2
2014	0.2	1.1	1.3

F. Summary of Estimated Government Costs

The following table summarizes the estimated total government costs on a plan year basis.

Table 16 Estimated Total Government Costs
($ millions)

Plan	Government Current Service Cost		Total		Total
Year	RCMPSA	RCA	Prior Service Contributions	Special Payments	Government Cost
2012	300	1	3		304
2013	307	1	3	54	365
2014	314	1	3	54	372

III. Actuarial Opinion

In our opinion, considering that this report was prepared pursuant to the *Public Pensions Reporting Act*,

- the valuation input data on which the valuation is based are sufficient and reliable for the purposes of the valuation;
- the assumptions that have been used are, individually and in aggregate, appropriate for the purposes of the valuation;
- the methods employed are appropriate for the purposes of the valuation; and
- this report has been prepared, and our opinions given, in accordance with accepted actuarial practice in Canada.

In particular, this report was prepared in accordance with the Standards of Practice (General Standards and Practice – Specific Standards for Pension Plans) published by the Canadian Institute of Actuaries.

To the best of our knowledge, after inquiring with the Royal Canadian Mounted Police, there were no other subsequent events between the valuation date and the date of this report that would have a material impact on the results of this valuation.

The payment of accrued pension benefits being the responsibility of the government, the likelihood of the plan being wound-up and its obligation not being fulfilled is practically nonexistent; also the Act does not define the benefits payable upon wind-up. Therefore, a hypothetical wind-up valuation has not been performed.

Jean-Claude Ménard

Jean-Claude Ménard, F.S.A., F.C.I.A.
Chief Actuary

Mario Mercier, F.S.A., F.C.I.A.
Actuary

Michel Rapin

Michel Rapin, F.S.A., F.C.I.A.
Senior Actuary

Ottawa, Canada,
23 March 2012

Appendix 1 – Summary of Pension Benefit Provisions

Pensions for members of the Royal Canadian Mounted Police ("the Force") were provided under the *Royal Canadian Mounted Police Act* until the *Royal Canadian Mounted Police Pension Continuation Act* and the *Royal Canadian Mounted Police Superannuation Act* (RCMPSA) were enacted in 1959. Benefits are also provided to members of the Force under the *Special Retirement Arrangements Act*. Benefits may be modified in accordance with the *Pension Benefits Division Act* if there is a breakdown of a spousal union.

The previous valuation report was based on the pension benefit provisions as they stood as at 31 March 2008. Except for the 2012 member contribution rates shown below, there were no changes to the plan provisions since the last valuation.

Summary of Pension Benefit Provisions
Summarized in this Appendix are the pension benefits provided under the RCMPSA registered provisions which are in compliance with the *Income Tax Act*. The portion of the benefits in excess of the *Income Tax Act* limits for registered pension plans is provided under the retirement compensation arrangements described in Appendix 2.

The legislation shall prevail if there is a discrepancy between it and this summary.

A. Membership

Membership in the plan is compulsory for all members of the Force regardless of length of service. Continued membership in the plan became optional for members of the Force who transferred to the Canadian Security Intelligence Service when it was established in 1984.

B. Contributions

1. Members

During the first 35 years of pensionable service, members contribute according to the rates shown in the following table.

Calendar Year	2011	2012	2013	2014
Contribution rates on earnings **up to** the maximum covered by the Canada Pension Plan	5.8%	6.2%	6.6%	6.9%
Contribution rates on any earnings **over** the maximum covered by the Canada Pension Plan	8.4%	8.6%	8.8%	9.0%

The rates beyond 2012 have been changed from the previous report and are consistent with previously stated government objective of moving to a 60:40 current service cost sharing ratio. Rates beyond 2014 are assumed to remain constant.

After 35 years of pensionable service, members contribute only 1% of pensionable earnings.

2. Government

a) Current Service

The government determines its normal monthly contribution as that amount, which when combined with the required contributions by members in respect of current service, is sufficient to cover the cost, as estimated by the President of the Treasury Board, of all future benefits that have accrued in respect of pensionable service during that month and the Fund administrative expenses incurred during that month.

b) Elected Prior Service

The government matches member contributions made to the Superannuation Account for prior service elections. Government credits to the Pension Fund in respect of elected prior service are as described for current service.

c) Actuarial Excess and Surplus

Bill C-78, which received Royal Assent on 14 September 1999, gives the government the authority to:

- debit the excess of the balance of the Superannuation Account over the actuarial liability subject to limitations, and
- deal with any actuarial surplus, subject to limitations, in the Pension Fund as they occur, either by reducing employee and/or government contributions or by making withdrawals.

d) Actuarial Deficit

If an actuarial deficit is identified through a triennial statutory actuarial report, the Superannuation Account and/or the Pension Fund are to be credited with such annual amounts that in the opinion of the President of the Treasury Board will fully amortize the actuarial deficit at the end of a period not exceeding 15 years.

C. Summary Description of Benefits

The objective of the RCMP pension plan is to provide an employment earnings-related lifetime retirement pension to eligible members. Benefits to members in case of disability and to the spouse and children in case of death are also provided.

Subject to coordination with the pensions paid by the Canada Pension Plan (CPP), the initial rate of retirement pension is equal to 2% of the highest average annual pensionable earnings over any period of five consecutive years, multiplied by the number of years of pensionable service not exceeding 35. Once in pay, the pension is indexed annually with the Consumer Price Index. Such indexation also applies to deferred pensions during the deferral period. Entitlement to benefits depends on either service in the Force or pensionable service, as defined in Notes 3 and 4 of section D below.

Detailed notes on the following overview are provided in section D.

1. Regular Members

Type of Termination	Service in the Force	Benefit
Retirement because of age (Note 5)	Under 2 years	Greater of: • return of contributions (Note 6), or • cash termination allowance (Note 7)
	2 or more years	Immediate annuity (Note 8)
Compulsory retirement to promote economy or efficiency in the Force	Under 2 years	Return of contributions
	2 to 19 years	Choice of: • return of contributions, or • deferred annuity (Note 9), or • reduced immediate annuity (Note 11)
	20 or more years	Immediate annuity
Compulsory retirement because of misconduct	Any period	At the discretion of the Treasury Board (Note 12)
Withdrawal	Under 2 years	Return of contributions
	2 to 19 years	Choice of: • return of contributions, or • deferred annuity, or • transfer value if under age 60 (Note 10)
Voluntary retirement	20 years to exactly 24 years	Annual allowance (Note 13)
	24 years and at least one day	Immediate annuity
Type of Termination	**Pensionable Service**	**Benefit**
Compulsory retirement because of disability	Under 2 years	Greater of: • return of contributions, or • cash termination allowance
	2 or more years	Immediate annuity
Death leaving no eligible survivor	Under 2 years	Return of contributions to nominated beneficiary, otherwise to estate
	2 or more years	Minimum death benefit (Note 16)
Death leaving eligible survivor(s) (Notes 14 and 15)	Under 2 years	Greater of: • return of contributions, or • one month of pay per year of pensionable service
	2 or more years	Annual allowance to eligible survivor(s) (Note 18)

2. Civilian Members

Type of Termination	Pensionable Service	Benefit
Voluntary retirement at age 60 or over	Under 2 years 2 or more years	Return of contributions (Note 6) Immediate annuity (Note 8)
Compulsory retirement because of misconduct	Under 2 years 2 or more years	Return of contributions At the discretion of the Treasury Board (Note 12)
Withdrawal	Under 2 years 2 to 29 years	Return of contributions Choice of • return of contributions (Note 6), or • deferred annuity (Note 9), or • transfer value if under age 50 (Note 10), or • annual allowance if aged at least 50 (Note 19)
Voluntary retirement before age 60	30 to 34 years • under age 55 • age 55 or over 35 or more years	 As for 2 to 29 years Immediate annuity Immediate annuity
Compulsory retirement because of disability	Under 2 years 2 or more years	Greater of: • return of contributions, or • cash termination allowance (Note 7) Immediate annuity
Death leaving no eligible survivor	Under 2 years 2 or more years	Return of contributions to nominated beneficiary, otherwise to estate Minimum death benefit (Note 16)
Death leaving eligible survivor(s) (Notes 14 and 15)	Under 2 years 2 or more years	Greater of: • return of contributions, or • one month of pay per year of pensionable service Annual allowance to eligible survivor(s) (Note 18)

3. Pensioners

Type of Termination	Benefit
Disability	Immediate annuity
Death leaving no eligible survivor	Minimum death benefit (Note 16)
Death leaving eligible survivor(s)	Annual allowance to eligible survivor(s) (Note 18)

D. Explanatory Notes

1. Pensionable Earnings

Pensionable earnings means the annual employment earnings (excluding overtime but including pensionable allowances such as bilingual bonuses) of a contributor.

Pensionable payroll means the aggregate pensionable earnings of all contributors with less than 35 years of pensionable service.

2. Indexation

a) Indexation Adjustments

All immediate and deferred annuities (pensions and allowances) are adjusted every January to the extent warranted by the increase, as at 30 September of the previous year, in the 12-month average Consumer Price Index relative to the corresponding figure one year earlier. If the indicated adjustment is negative, annuities are not decreased for that year; however, it is carried-forward and the next positive adjustment is diminished accordingly.

b) First Indexation Adjustment

Indexation adjustments accrue from the end of the month in which employment terminates. The first annual adjustment following termination of employment is prorated accordingly.

c) Commencement of Indexation Payments

The indexation portion of a retirement, disability or survivor pension normally starts being paid when the pension is put into pay. However, regarding a Regular Member retirement pension, indexation payments start only when the pensioner is either

- at least 55 years old, provided the sum of age and pensionable service is at least 85 years; or
- at least 60 years old.

3. Service in the Force

Service in the Force normally includes any period during which a person made required contributions under the RCMPSA, regardless of whether such contributions were subsequently withdrawn. As well, it includes any period of service as a member of any other police force subsequently taken over by the Force.

4. Pensionable Service

Pensionable service includes any period of service in the Force in respect of which a contributor either (1) had to make contributions that remain in the plan or (2) elected to contribute. It also includes any period of prior service with another employer in respect of which a contributor has elected to contribute in accordance with the provisions of the RCMPSA.

5. Retirement Because of Age

Retirement because of age means ceasing to be a Regular Member on or after reaching age 60, for a reason other than disability or misconduct. Regular Members who joined the Force before July 1988 may elect to retain the prescribed retirement ages (56 for ranks up to corporal, 57 for sergeants, and 58 for staff sergeants and majors) in effect at that time.

6. Return of Contributions

Return of contributions means the payment of an amount equal to the accumulated current and prior service contributions paid or transferred by the contributor into the plan. Interest is credited quarterly on returned contributions in accordance with the investment return on the RCMP Pension Fund or in accordance with the interest credited on the Superannuation Account, depending on where contributions were credited.

7. Cash Termination Allowance

Cash termination allowance means an amount equal to one month's salary, as at the date of termination, multiplied by the number of years of pensionable service, minus the total reduction in previous contributions by virtue of its coordination with the CPP.

8. Immediate Annuity

Immediate annuity means an unreduced pension that becomes payable immediately upon a pensionable retirement or pensionable disability. The annual amount is equal to 2% of the highest average annual pensionable earnings of the contributor over any period of five[1] consecutive years, multiplied by the number of years of pensionable service not exceeding 35. For contributors with periods of part-time pensionable service, earnings used in the five-year average are based on a full 37.5-hour workweek but the resulting average is multiplied by the proportion of a full workweek averaged by the contributor over the entire period of pensionable service.

When a pensioner attains age 65 or becomes entitled to a disability pension from the CPP, the annual pension amount is reduced by a percentage of the *indexed CPP annual pensionable earnings*[2] (or, if lesser, the indexed five-year[1] pensionable earnings average on which the immediate annuity is based), multiplied by the *years of CPP pensionable service*[3]. The applicable percentage (it was 0.7% before 1 January 2008) depends on the year the pensioner attains age 65 or becomes entitled to a disability pension. The following table shows the applicable percentage:

	Calendar Years				
	2008	2009	2010	2011	2012+
Coordination Percentage	0.685%	0.670%	0.655%	0.640%	0.625%

Annuities are payable at the end of month until the month in which the pensioner dies or until the disabled pensioner recovers from disability (the last payment would then be pro-rated). Upon the death of the pensioner, either a survivor allowance (Note 18) or a residual death benefit (Note 17) may be payable.

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1 If the number of years of pensionable service is less than five, then the averaging is over the entire period of pensionable service.

2 *Indexed CPP annual pensionable earnings* means the average of the YMPE, as defined in the CPP, over the five calendar years leading up to and including the one in which pensionable service terminated, increased by indexation proportionate to that accrued in respect of the immediate annuity.

3 *Years of CPP pensionable service* mean the number of years of RCMPSA pensionable service after 1965 or after attaining age 18, whichever is later, but not exceeding 35.

9. Deferred Annuity

Deferred annuity means an annuity that normally becomes payable to a former contributor who reaches age 60. The annual payment is determined as for an immediate annuity (Note 8) but is also adjusted to reflect the indexation (Note 2) from the date of termination to the commencement of benefit payments.

The deferred annuity becomes an immediate annuity during any period of disability beginning before age 60. If the disability ceases before age 60, the immediate annuity reverts to the original deferred annuity unless the pensioner elects an annual allowance (Notes 13 and 19) that is the prescribed actuarial equivalent to the deferred annuity.

10. Transfer Value

Regular Members and Civilian Members who, at their date of termination of pensionable service, are under age 60 and 50, respectively, and who are eligible for a deferred annuity may elect to transfer the commuted value of their benefits, determined in accordance with the regulations, to

- a locked-in Registered Retirement Savings Plan of the prescribed kind; or
- another pension plan registered under the *Income Tax Act*; or
- a financial institution for the purchase of a locked-in immediate or deferred annuity of the prescribed kind.

11. Reduced Immediate Annuity

Reduced immediate annuity means an immediate annuity for which the annual amount of annuity determined as described in Note 8 is reduced until age 65 by 5% for each full year, not exceeding six, by which the period of service in the Force is less than 20 years. This type of annuity may be chosen by a Regular Member who has completed between 10 and 20 years of service in the Force upon being compulsorily retired

- on account of a reduction in the Force, or
- to promote economy or efficiency in the force (only at the discretion of the Treasury Board).

12. Retirement Because of Misconduct

Upon compulsory retirement because of misconduct, a contributor is entitled to

- a return of contributions, or
- a greater benefit as specified by the Treasury Board but not exceeding that available in the absence of misconduct.

13. Annual Allowance for Regular Members

Annual allowance means, for a Regular Member, an immediate annuity reduced by 5% for each full year by which

- the period of service in the Force is less than 25 years, or
- the age at retirement is less than the applicable retirement age (as defined in item 5),

whichever is the lesser.

14. Eligible Surviving Spouse

Eligible surviving spouse means the surviving spouse (includes a common-law or same-sex partner recognized under the plan) of a contributor or pensioner except if:

- the contributor or pensioner died within one year of commencement of the spousal union, unless the Treasury Board is satisfied that the health of the contributor or pensioner at the time of such commencement justified an expectation of surviving for at least one year;
- the pensioner married at age 60 or over, unless after such marriage the pensioner either:
    - became a contributor again, or
    - made an optional survivor benefit election within 12 months following marriage to accept a reduced pension so that the new spouse would be eligible for a survivor benefit. This reduction is reversed if and when the new spouse predeceases the pensioner or the spousal union is terminated for reason other than death; or
- the pensioner is a female who retired before 20 December 1975 and did not make an optional survivor benefit election within the one-year period ending 6 May 1995.

15. Eligible Surviving Children

Eligible surviving children include all children of the contributor or pensioner who are under age 18, and any child of the contributor or pensioner who is age 18 or over but under 25, in full-time attendance at a school or university, having been in such attendance substantially without interruption since he or she reached age 18 or the contributor or pensioner died, whichever occurred later.

16. Minimum Death Benefit

If a contributor or a pensioner dies leaving no eligible survivor, the lump sum normally paid is the excess of five times the annual amount of the immediate annuity to which the contributor would have been entitled, or the pensioner was entitled, at the time of death, less any pension payments already received. Indexation adjustments are excluded from these calculations.

17. Residual Death Benefit

The same formula described in Note 16 is used to determine the residual death benefit, which is the lump sum payable upon the death of an eligible survivor but also subtracting all amounts (excluding indexation adjustments) already paid to the survivor.

18. Annual Allowance for Eligible Survivor(s)

Annual allowance means, for the eligible surviving spouse and children of a contributor or pensioner, an annuity that becomes payable immediately upon the death of that individual. The amount of the allowance is determined with reference to a *basic allowance* equal to 1% of the highest average annual pensionable earnings of the contributor over five consecutive years, multiplied by the number of years of pensionable service not exceeding 35.

The annual allowance for a spouse is equal to the basic allowance unless the spouse became eligible as a result of an optional survivor benefit election, in which case it is equal to the percentage of the basic allowance specified by the pensioner making the election. The annual allowance for an eligible surviving child is equal to 20% of the basic allowance, subject to a reduction if there are more than four eligible surviving children in the same family. The annuity otherwise payable to an eligible surviving child is doubled if the child is an orphan.

Survivor annual allowances are not coordinated with the CPP and are payable in equal monthly instalments at the end of month until the month in which the survivor dies or otherwise loses eligibility. If applicable, a residual benefit (Note 17) is payable to the estate upon the death of the last survivor.

19. Annual Allowance for Civilian Members

Annual allowance means, for a Civilian Member, an annuity payable immediately on retirement or upon attaining age 50, whichever occurs later. The amount of the allowance is equal to the amount of the deferred annuity to which the Civilian Member would otherwise be entitled, reduced by 5% for each year between age 60 and the age when the allowance becomes payable. However, if the Civilian Member is at least 50 years old, and has at least 25 years of pensionable service, then the difference is reduced to the greater of

- 55 minus the age, and
- 30 minus the number of years of pensionable service.

The Treasury Board can waive all or part of the reduction for Civilian Members who are involuntarily retired at ages 55 and over with at least ten years of service in the Force.

If a former Civilian Member entitled to an annual allowance commencing at age 50 becomes disabled before then, the entitlement changes to an immediate annuity (Note 8). If disability ceases before age 60, then the entitlement changes to a deferred annuity (Note 9) unless the pensioner elects an annual allowance that is the prescribed actuarial equivalent to the deferred annuity.

20. Division of Pension with Former Spouse

In accordance with the *Pension Benefits Division Act*, upon the breakdown of a spousal union (including common-law), a lump sum can be debited by court order or by mutual consent from, if applicable, the accounts and the Fund to the credit of the former spouse of a contributor or pensioner. The maximum transferable amount is half the value, calculated as at the transfer date, of the retirement pension accrued by the contributor or pensioner during the period of cohabitation. If the member’s benefits are not vested, the maximum transferable amount corresponds to half the member’s contributions made during the period subject to division, accumulated with interest at the rate applicable on a refund of contributions. The benefits of the contributor or pensioner are then reduced accordingly.

Appendix 2 – Retirement Compensation Arrangement Benefit Provisions

Retirement compensation arrangements (RCAs) are prefunded arrangements not subject to the benefit limitations of registered pension plans and therefore are less tax-advantaged as the fund must transfer a 50% refundable tax to the Canada Revenue Agency (CRA) immediately. Under the RCMP RCA, a debit is made from the RCA Account such that in total roughly half the recorded balances in the Account are held as a tax credit (CRA refundable tax). This Appendix describes the RCMP pension benefits financed through RCAs rather than through the registered RCMPSA provisions that have a material impact on this valuation.

A. Annual Allowance for Eligible Survivors

If the annual allowance for eligible survivors described in Note 18 of section D of Appendix 1 exceeds the tax-related limits described hereafter for registered plans, then the excess in respect of service from 1 January 1992 onwards is debited from the RCA.

1. Tax-related limits on preretirement survivor benefits

The total of all preretirement survivor pensions payable in respect of a deceased member may not exceed the member's projected lifetime retirement benefit and the amount of spouse allowance may not exceed two-thirds of the projected lifetime retirement benefit.

The member's projected lifetime retirement benefit is the greater of:

a) the deceased member's accrued pension reduced by the CPP coordination offset; and
b) the lesser of:
   i) the member's projected retirement benefit at age 65 based on current salary history, and
   ii) 1.5 times the YMPE in effect during the year of the member's death.

2. Tax-related limits on postretirement survivor benefits

The amount of the spouse allowance provided is limited in any year to a maximum of two-thirds the retirement benefit that would have been payable to the member in that year.

B. Excess Pensionable Earnings

From 23 February 1995 onward, the highest average of pensionable earnings under the RCMPSA is subject to a prescribed yearly maximum. Because the RCMPSA is coordinated with the pensions paid by the Canada Pension Plan, the prescribed maximum is derived from both the maximum annual pension benefit ($2,646.67 for calendar year 2012) payable from a registered defined benefit pension plan for each year of pensionable service and the YMPE. The maximum is $148,000 for calendar year 2012. To the extent that a member's average earnings at retirement exceed the prescribed yearly maximum, the corresponding excess pension is debited from the RCA.

Appendix 3 – Assets, Accounts and Rates of Return

A. Assets and Accounts Available for Benefits

The pension promise to RCMP members enacted by legislation encompasses government assets and accounts. The assets the government uses to finance the pension promise are composed of invested assets (Pension Fund) which the government has earmarked for the payment of benefits, and accounts (Superannuation and RCA accounts) established to track its pension benefit obligations.

1. RCMP Superannuation Account

RCMPSA benefits earned up to 31 March 2000 are financed entirely through the RCMP Superannuation Account, which forms part of the Public Accounts of Canada.

The Account was credited with all RCMPSA contributions made by members and the government prior to 1 April 2000, as well as with prior service contributions for elections made prior to 1 April 2000 and leave without pay contributions for periods before 1 April 2000 but remitted after that date. It is charged with both the benefit payments made in respect of service earned under the Account and the allocated portion of the plan administrative expenses.

The Account is credited with interest earnings as though net cash flows were invested quarterly in 20-year Government of Canada bonds issued at prescribed interest rates and held to maturity. No formal debt instrument is issued to the Account by the government in recognition of the amounts therein. Interest earnings are credited every three months on the basis of the average yield for the same period on the combined Superannuation Accounts of the Public Service, Canadian Forces and RCMP pension plans.

Table 17 Reconciliation of Balances in Superannuation Account
($ millions)

Plan year	2009	2010	2011	2009-2011
Public Accounts opening balance	11,989.2	12,306.6	12,595.5	11,989.2
INCOME				
Interest earnings	827.3	816.7	801.7	2,445.7
Government contributions	0.9	0.8	0.7	2.4
Employee contributions	0.9	0.8	0.8	2.5
Transfers received	-	-	-	-
Actuarial liability adjustments	-	-	-	-
Subtotal	*829.1*	*818.3*	*803.2*	*2,450.6*
EXPENDITURES				
Annuities	489.9	513.0	531.5	1,534.4
Pension divisions	10.6	7.9	10.7	29.2
Transfer values	3.1	1.8	1.0	5.9
Return of contributions and cash allowances	-	-	0.2	0.2
Transfers sent	0.1	0.2	0.1	0.4
Administrative expenses	8.0	6.5	8.6	23.1
Subtotal	*511.7*	*529.4*	*552.1*	*1,593.2*
Public Accounts closing balance	12,306.6	12,595.5	12,846.6	12,846.6

Since the last valuation, the Account balance has grown by $857 million (a 7.2% increase) to reach $12,847 million as at 31 March 2011.

2. RCMP Pension Fund

Since 1 April 2000 RCMPSA contributions (except for prior service elections made prior to 1 April 2000) have been credited to the RCMP Pension Fund. The Fund is invested in the financial markets with a view to achieving maximum rates of return without undue risk.

The Fund has been credited with all RCMPSA contributions since 1 April 2000, as well as with prior service contributions in respect of elections made since that date and leave without pay contributions for periods after that date. The Fund is also credited with the net investment returns generated by the capital assets managed by PSPIB. It is charged with both the benefit payments made in respect of service earned and prior service elections made since 1 April 2000 and the allocated portion of the plan administrative expenses.

Table 18 Reconciliation of Balances in Pension Fund
($ millions)

Plan year	2009	2010	2011	2009-2011
Opening balance	2,798.2	2,428.0	3,283.8	2,798.2
INCOME				
Gross investment earnings	(679.0)	539.0	498.0	358.0
Government contributions	245.2	255.9	272.9	774.0
Employee contributions	109.9	119.0	128.5	357.4
Transfers received	3.9	1.7	2.5	8.1
Subtotal	*(320.0)*	*915.6*	*901.9*	*1,497.5*
EXPENDITURES				
Annuities	34.8	42.9	52.0	129.7
Transfer values	4.1	4.8	3.4	12.3
Pension divisions	2.4	2.8	4.2	9.4
Return of contributions and cash allowances	0.2	0.2	0.4	0.8
Transfers sent	0.4	0.5	0.4	1.3
Administrative expenses	2.3	2.1	3.2	7.6
PSPIB investment expenses	6.0	7.0	8.0	21.0
Subtotal	50.2	60.3	71.6	182.1
Corrections	-	0.5	-	0.5
Closing balance	2,428.0	3,283.8	4,114.1	4,114.1

Since the last valuation, the Fund balance has increased by $1.3 billion (a 47% increase) to reach $4,114 million as at 31 March 2011.

3. RCA Account

The amount in the RCA account available for benefits is composed of the recorded balance in the Retirement Compensation Arrangements Account, which forms part of the Public Accounts of Canada, and a tax credit (CRA refundable tax). Each calendar year, a debit is made from the RCA Account such that in total roughly half the recorded balances in the Account are held as a tax credit (CRA refundable tax).

No formal debt instrument is issued to the Account by the government in recognition of the amounts therein. Interest earnings are credited every three months on the basis of the average yield for the same period on the combined Superannuation Accounts of the Public Service, Canadian Forces and RCMP pension plans.

Table 19 Reconciliation of Balances in RCA Account
($ millions)

Plan year	2009	2010	2011	2009-2011
Opening balance	23.7	26.0	27.7	23.7
INCOME				
Interest earnings	1.7	1.8	1.8	5.3
Government contributions	2.9	1.8	1.6	6.3
Employee contributions	0.4	0.2	0.2	0.8
Subtotal	*5.0*	*3.8*	*3.6*	*12.4*
EXPENDITURES				
Benefits paid	0.4	0.4	0.5	1.3
Debited transfer to CRA	2.3	1.7	1.6	5.6
Subtotal	*2.7*	*2.1*	*2.1*	*6.9*
Closing balance	26.0	27.7	29.2	29.2
Tax credit (CRA refundable tax)	25.5	27.2	28.8	28.8

Since the last valuation, the RCA Account balance has increased by 23% to reach $29 million as at 31 March 2011 and the tax credit (CRA refundable tax) of $23 million as at 31 March 2008 has increased by 25% to reach $29 million as at 31 March 2011.

B. Rates of Interest (Return)

The rates of interest in respect of the Superannuation Account were calculated using the foregoing entries. The Account yields are based on book values since the notional bonds are deemed to be held to maturity. The results were computed using the dollar-weighted approach and assume that cash flows occur in the middle of the plan year (except for actuarial liability adjustments, which occur on 31 March). The Fund rates of return are those from the Public Sector Pension Investment Board (PSPIB) 2011 Annual Report.

Plan Year	Superannuation Account	Pension Fund
2009	7.1%	(22.7%)
2010	6.8%	21.5%
2011	6.5%	14.5%

C. Sources of Asset Data

The Royal Canadian Mounted Police Superannuation Account, RCA Account and Royal Canadian Mounted Police Pension Fund entries shown in Section A above were taken from the Public Accounts of Canada and the financial statements of the Public Sector Pension Investment Board.

Appendix 4 – Membership Data

A. Sources and Validation of Membership Data

The individual data in respect of contributors, pensioners, and eligible survivors were provided as at 31 March 2011. The data includes benefits debited from the RCA Account.

The firm Morneau Shepell which is responsible for the administration of the plan provided relevant valuation input data on contributors, pensioners and eligible survivors.

Certain tests of consistency with the data used in the previous valuation, with respect to membership reconciliation, basic information (date of birth, date of hire, date of termination, sex, etc.), pensionable service, salary levels and pensions to retirees and survivors. Based on the omissions and discrepancies identified by these and other tests, appropriate adjustments were made to the basic data after consulting with the data provider.

B. Summary of Membership Data

A summary of the valuation data as at 31 March 2011 and the reconciliation of contributors, pensioners, and survivors during the period from April 2008 to March 2011 inclusive are shown in this section. Average pensions shown in the following table include benefits debited from the RCA Account. Relevant detailed statistics on contributors, pensioners and survivors are shown in Appendix 12.

Table 20 Summary of Membership Data

	As at 31 March 2011	As at 31 March 2008
Contributors		
· Number	23,218	21,212
· Average Pensionable Earnings	$83,700	$78,600
· Average Age	40.3	40.3
· Average Service	12.6	13.4
Retirement Pensioners		
· Number	12,602	11,482
· Average Pension	$41,400	$38,800
· Average Age	65.0	63.3
Disability Pensioners		
· Number	1,775	1,505
· Average Pension	$31,800	$29,500
· Average Age	58.0	56.3
Eligible Surviving Spouses		
· Number	1,852	1,556
· Average Pension	$17,300	$16,100
· Average Age	69.6	67.7
Eligible Surviving Children		
· Number	141	169
· Average Pension	$2,200	$3,000

Table 21 Reconciliation of Membership

	Contributors	Retirement Pensioners	Disability Pensioners	Surviving Spouses	Surviving Children[1]
As at 31 March 2008	21,212	11,482	1,505	1,556	169
Data corrections	(17)	(17)	43	10	
New members	4,280	-	-	-	
Withdrawals	-	-	-	-	
Lump Sums	(359)	-	-	-	
Deferred annuities	(121)	121	-	-	
Pensionable disabilities	(281)	-	-	-	
Pensionable retirements	(1,456)	1,456	281	-	
Emerging survivors	-	-	-	389	
Deaths	(40)	(440)	(54)	(103)	
As at 31 March 2011	23,218	12,602	1,775	1,852	141

Table 22 Reconciliation of Contributors

	Regular Members		Civilian Members	
	Male	Female	Male	Female
As at 31 March 2008	14,347	3,515	1,643	1,707
Data corrections	7	(3)	(13)	(8)
New members	2,753	613	441	473
Withdrawals				
Lump sums	(185)	(38)	(49)	(87)
Deferred annuities	(46)	(20)	(11)	(44)
Pensionable disabilities	(183)	(58)	(12)	(28)
Pensionable retirements	(1,160)	(101)	(107)	(88)
Deaths	(35)	(1)	(4)	-
As at 31 March 2011	15,498	3,907	1,888	1,925

Table 23 Reconciliation of Retirement Pensioners

	Former Regular Members		Former Civilian Members	
	Male	Female	Male	Female
As at 31 March 2008	10,243	220	679	340
Data corrections	(22)	-	1	4
New deferred pensioners	46	20	11	44
New pensioners	1,160	101	107	88
Deaths	(370)	(2)	(46)	(22)
As at 31 March 2011	11,057	339	752	454

[1] The valuation data with respect to eligible surviving children were not detailed enough to allow the reconciliation of the change in the population.

Table 24 Reconciliation of Disability Pensioners

	Former Regular Members		Former Civilian Members	
	Male	Female	Male	Female
As at 31 March 2008	1,142	143	82	138
Data corrections	42	6	(3)	(2)
New pensioners	183	58	12	28
Deaths	(46)	(2)	(3)	(3)
As at 31 March 2011	1,321	205	88	161

Appendix 5 – RCMPSA Valuation Methodology

A. Plan Assets

1. RCMP Superannuation Account

The amount in the RCMP Superannuation Account available for benefits consists essentially of the recorded balance of the RCMP Superannuation Account in the Public Accounts of Canada. The underlying notional bond portfolio described in Appendix 3 is shown at the book value.

The only other Account-related amount available for benefits consists of the discounted value of future member contributions and government credits in respect of prior service elections. The discounted value of future member contributions was calculated using the projected Account yields; the government is assumed to match these future contributions.

2. Pension Fund

For valuation purposes, an adjusted market value method is used to determine the actuarial value of assets in respect of the Pension Fund. The method is unchanged from the previous valuation.

Under the adjusted market value method, the difference between the observed investment returns during a given plan year and the expected investment returns for that year based on the previous report assumptions is spread over five years, subject to a 10% corridor. As a result, the actuarial value of assets is a five-year smoothed market value where the appreciation of investment gains or losses is recognized at the rate of 20% per year. The value produced by this method is related to the market value of the assets but is more stable than the market value.

The only other Fund-related asset consists of the discounted value of future member contributions and government credits in respect of prior service elections. The discounted value of future member contributions was calculated using the assumed rates of return on the Pension Fund; the government is assumed to contribute in the same proportion as for the RCMPSA current service cost.

The actuarial value of the assets, determined as at 31 March 2011, under the adjusted market value method is $4,060 million and was determined as follows:

Table 25 Actuarial Value of Pension Fund Assets
As at 31 March 2011
($ millions)

Plan Year	2007	2008	2009	2010	2011	
Actual net investment return (A)	244	(19)	(685)	533	490	
Expected investment return (B)	136	169	177	155	207	
Investment gains (losses) (A-B)	108	(188)	(862)	378	283	
Gains (losses) recognized immediately					-	
Investment gains (losses) to be amortized	108	(188)	(862)	378	283	
Unrecognized percentage	0%	20%	40%	60%	80%	
Unrecognized investment gains (losses)	-	(38)	(345)	227	226	
Market value as at 31 March 2011						4,114
Plus						
Present value of prior service contributions						16
Less						
Total unrecognized investment gains						70
Actuarial value as at 31 March 2011						4,060

B. Actuarial Cost Method

As benefits earned in respect of current service will not be payable for many years, the purpose of an actuarial cost method is to assign costs over the working lifetime of the members.

As in the previous valuations, the *projected accrued benefit actuarial cost method* (also known as the projected unit credit method) was used to determine the current service cost and actuarial liability. Consistent with this cost method; pensionable earnings are projected up to retirement using the assumed annual increases in average pensionable earnings (including seniority and promotional increases). The yearly maximum salary cap and other benefit limits under the *Income Tax Act* described in Appendix 2 were taken into account to determine the benefits payable under the RCMPSA and those payable under the RCA.

1. Current Service Cost

Under the *projected accrued benefit actuarial cost method,* the current service cost, also called normal cost, computed in respect of a given year is the sum of the value, discounted in accordance with the actuarial assumptions for the Pension Fund, of all future payable benefits considered to accrue in respect of that year's service.

Under this method, the current service cost for an individual member will increase each year as the member approaches retirement. However, all other things being equal, the current service cost for the total population, expressed as a percentage of total pensionable payroll, can be expected to remain stable as long as the average age and service of the total population remain constant. The Pension Fund administrative expenses are deemed to be included in the total current service cost.

For a given year, the government current service cost is the total current service cost reduced by the members' contributions during the year.

2. Actuarial Liability

The actuarial liability with respect to contributors corresponds to the value, discounted in accordance with the actuarial assumptions, of all future payable benefits accrued as at the valuation date in respect of all previous service. For pensioners and survivors, the actuarial liability corresponds to the value, discounted in accordance with the actuarial assumptions, of future payable benefits.

3. Actuarial Excess (Deficit)

It is very unlikely that the actual experience will conform to the assumptions that underlie the actuarial estimates. Thus a balancing item must be calculated under this cost method to estimate the necessary adjustments. Adjustments may also be necessary if the terms of the pension benefits enacted by legislation are modified or if assumptions need to be updated.

The actuarial excess or deficit is the difference between the total value of assets or account available for benefits and the actuarial liability. A new actuarial deficit may be amortized over a period not exceeding 15 years through special payments and the disposition of any actuarial surplus is defined in the RCMPSA.

4. Government Contributions

The recommended government contribution corresponds to the sum of:

a) the government current service cost;
b) the government contributions for prior service; and
c) as applicable, special payments in respect of a deficit or as the case may be, actuarial surplus credits.

C. Projected Yields

The projected yields (shown in Appendix 6) assumed for computing the present value of accrued benefits to be credited from the Superannuation Account are the projected annual yields on the combined book value of the Superannuation Accounts of the Public Service, Canadian Forces, and RCMP pension plans.

The projected Account yields were determined by an iterative process involving the following:

- the combined notional bond portfolio of the three Accounts as at the valuation date,
- the assumed future new money interest rates (also shown in Appendix 6),
- the expected future benefits payable in respect of all pension entitlements accrued up to 31 March 2000,
- the expected future contributions for prior service elections, and
- the expected future administrative expenses,

taking into account that the quarterly interest credited to an Account is calculated as if the principal at the beginning of a quarter remains unchanged during the quarter.

The projected rates of return (shown in Appendix 6) assumed for computing the present value of the benefits accrued or accruing to be credited to the Pension Fund were developed on the basis that the Fund holds a diversified mix of assets.

D. Membership Data

For valuation purposes, individual data on each member were used.

The member data shown in Appendices 4 and 12 were provided as at 31 March 2011. This valuation is based on the member data as at the valuation date.

Appendix 6 – RCMPSA Economic Assumptions

The payment of accrued pension benefits is the responsibility of the government, therefore the likelihood of the plan being wound-up and its obligation not being fulfilled is practically nonexistent, consequently all of the assumptions used in this report are best-estimate assumptions, i.e. they reflect our best judgement of the future long-term experience of the plan and do not include a margin.

A. Inflation-Related Assumptions

1. Level of Inflation

Price increases, as measured by changes in the Consumer Price Index (CPI), tend to fluctuate from year to year. In 2006, the Bank of Canada and the Government renewed their commitment to keep inflation between 1% and 3% until the end of 2011. In November 2011, this commitment was renewed until the end of 2016. Therefore, a price increase rate of 2.0% is assumed for plan years 2012 to 2017. For plan years 2018 to 2020, the CPI is assumed to increase from 2.0% to 2.3% and to remain at 2.3% thereafter. The ultimate rate of 2.3% is 0.1% lower than the assumed rate in the previous valuation.

2. Increase in Pension Factor

The year's pension indexing factor is required in the valuation process by virtue of its role in maintaining the purchasing power of pensions. It was derived by applying the indexation formula described in Appendix 1, which relates to the assumed Consumer Price Index increases over successive 12-month periods ending on 30 September.

B. Employment Earnings Increases

1. Increase in the Year's Maximum Pensionable Earnings (YMPE)

The YMPE is required in the valuation process because the plan is coordinated with the Canada Pension Plan. The assumed increase in the YMPE for a given calendar year is derived, in accordance with the *Canada Pension Plan*, to correspond to the increase in the average weekly earnings (AWE), as calculated by Statistics Canada, over successive 12-month periods ending on 30 June. The AWE, and thus the YMPE, is deemed to include a component for seniority and promotional increases. The YMPE is equal to $50,100 for calendar year 2012. Future increases in the YMPE correspond to the assumed real[1] increase in the AWE plus assumed increases in the CPI.

The real-wage differential is developed taking into account historical trends, a possible labour shortage, and an assumed moderate economic growth for Canada with a relatively high unemployment rate in fiscal year 2012. Thus, a real-wage differential of 0.5% is assumed for 2013, and is assumed to gradually increase to the ultimate assumption of 1.3% by 2021. The ultimate real-wage differential assumption combined with the ultimate price increase assumption results in an assumed annual increase in nominal wages of 3.6% in 2021 and thereafter. Thus, the ultimate rate of increase for the YMPE is 3.6%, resulting from a 1.3% increase in the real AWE and a 2.3% increase in the CPI.

[1] Note that all of the real rates presented in this report are actually differentials, i.e. the difference between the effective annual rate and the rate of increase in prices. This differs from the technical definition of a real rate of return, which, for example in the case of the ultimate Fund assumption would be 4.0% (derived from 1.064/1.023) rather than 4.1%.

2. Increase in Average Pensionable Earnings

Average pensionable earnings are applicable to Plan members only, whereas the YMPE applies to the general working population in Canada. In addition, increases in average pensionable earnings are exclusive of seniority and promotional increases, which are considered under a separate demographic assumption. Thus, the annual increase in average pensionable earnings is assumed to be 0.1% lower than the corresponding increase in the YMPE. The ultimate increase in average pensionable earnings is 3.5%.

3. Increase in Maximum Pensionable Earnings (MPE)

Since the plan is coordinated with the Canada Pension Plan, the tax-related maximum pensionable earnings were derived from both the maximum annual pension accrual under a registered defined benefit plan and the YMPE. The maximum annual pension accrual of $2,552.22 for 2011 will increase to $2,646.67 for 2012, in accordance with Income Tax Regulations. Thereafter, the maximum annual pension accrual is assumed to increase in accordance with the assumed annual increase in the YMPE, which is the same as the assumed annual increase in the AWE.

Beginning with calendar year 2012, the ultimate coordination factor is 0.625% (it was 0.7% before 2008). The MPE is $148,000 for calendar year 2012.

C. Investment-Related Assumptions

1. New Money Rate

The new money rate is the nominal yield on long-term Government of Canada bonds and is set for each year in the projection period. The real yield on long-term federal bonds is equal to the new money rate less the assumed rate of inflation.

Recognizing recent experience, the real yield on long-term federal bonds is assumed to be 1.8% in plan year 2012, and is assumed to increase gradually to its ultimate level of 2.7% first attained in plan year 2017. The ultimate real yield is 0.1% less than assumed in the previous valuation, which was 2.8%. The real yield on long-term bonds is based on historical yields.

2. Projected Yields on Superannuation Account

These yields are required for the computation of present values of benefits to determine the liability for service prior to 1 April 2000. The methodology used to determine the projected yields on the Account is described in Appendix 5-C. The methodology is unchanged from previous valuations.

3. Rate of Return on the Fund

The expected annual nominal rates of return on the Fund are required for the computation of present values of benefits to determine the liability for service since 1 April 2000 and the current service cost. The following sections describe how the rates of return on the Fund are determined.

a) Investment Strategy

Since 1 April 2000, invested assets resulting from transferred amount equal to the government and employee contributions, net of benefit payments and administrative expenses, are invested in capital markets through the Public Sector Pension Investment Board (PSPIB). PSPIB invests funds to maximize returns without undue risk of loss according to its own investment policies that take into account the needs of contributors and beneficiaries, as well as financial market constraints. For the purpose of this report, the investments have been grouped into three broad categories: equities, fixed income securities and real return assets. Equities consist of Canadian, foreign developed market and emerging market equities. Fixed income securities consist of bonds which are usually a mix of federal, provincial, corporate and real return bonds. Real return assets include such categories as real estate and infrastructure.

As at 31 March 2011, the asset mix for the Plan consisted of 21% fixed income securities (including world inflation-linked bonds), 66% equity and 13% real return assets. PSPIB has developed a long-term target Policy Portfolio (approved by its Board of Directors on 31 March 2011 and subject to an annual review), which consists of 18% fixed income securities (including world inflation-linked bonds), 56% equity and 26% real return assets. The Policy Portfolio asset mix weights represent long-term targets. Therefore, the initial asset mix for the Plan is mostly derived using the actual investments reported by PSPIB as at 31 March 2011.

The assumed asset mix of the Plan portfolio at the beginning of plan year 2012 consists of 65% equity, 21% fixed income and 14% real return assets. As PSPIB Policy Portfolio reflects long-term expectations, it is assumed that the asset mix of the Plan portfolio will converge slowly toward the Policy Portfolio, but not necessarily reaching its ultimate weights. The ultimate asset mix of the Plan portfolio is reached in plan year 2020 and consists of 55% equity, 20% fixed income securities and 25% real return assets.

Table 26 shows the assumed asset mix for each plan year throughout the projection period.

Table 26 Asset Mix
(in percentage)

Plan Year	Fixed Income Securities	Canadian Equity	U.S. and Foreign Equity	Emerging Market Equity	Real Estate & Infrastructure
2012	21	33	25	7	14
2013	20	30	27	7	16
2014	20	27	28	7	18
2015	20	25	28	7	20
2016	20	24	28	7	21
2017	20	23	28	7	22
2018	20	22	28	7	23
2019	20	21	28	7	24
2020+	20	20	28	7	25

b) Real Rates of Return by Asset Type

Real rates of return are required in order to discount benefits payable in the future for the determination of Plan liabilities and current service cost. They are assumed for each year of the projection period and for each of the main asset categories in which Plan assets are invested. All of the real rates of return described in this section are net of investment expenses other than operating expenses, that is, net of transaction costs and investment management fees and include an allowance for rebalancing and diversification. Subsection c) describes how the portfolio returns are further reduced for operating expenses. Over the last three plan years, investment expenses other than operating expenses have been, on average, equal to about 0.20% of average net assets. It is assumed that 50% of those investment expenses (transaction costs and investment management fees) are incurred through active management decisions that are expected to be self-supporting. Therefore, it is assumed that going forward transaction costs and investment management fees will represent 0.10% of average net assets.

The real rates of return were developed by looking at historical returns (expressed in Canadian dollars) and adjusting the returns upward or downward to reflect expectations that differ from the past. It is assumed that currency variations will impact the real rates of return over the projection period, creating gains and losses. However, as the projection period is long, these gains and losses are expected to offset each other over time. Hence, it is assumed that currency variations will not have an impact on the long-term real rates of return.

Fixed Income Securities

PSPIB currently has 21% of the Plan portfolio invested in fixed income securities, including Canadian fixed income, world government bonds, world inflation-linked bonds and cash. PSPIB Policy Portfolio assumes a long-term target weight for fixed income securities of 18% (including world inflation-linked bonds). Thus, it is assumed that the proportion invested in fixed income securities will slightly decrease in order to follow the Policy Portfolio. It is assumed that by plan year 2013, 20% of the portfolio will be invested in fixed income securities. Net cash flows (contributions less expenditures) are expected to become negative during plan year 2035 and a portion of investment income will therefore be required to pay benefits. Changes to the assumed asset mix may be required in the future to reduce funding risks and to take into account the maturity of the plan.

It is assumed that the Plan’s fixed income portfolio consists of federal, provincial, corporate and inflation-linked bonds. Initially, the fixed income portfolio is assumed to consist of 30% federal bonds, 15% provincial bonds, 30% corporate bonds and 25% inflation-linked bonds. However, the bond mix is assumed to shift over the following five plan years as investments in provincial bonds increase while investments in inflation-linked bonds decrease. The fixed income portfolio is projected to reach its ultimate assumed mix of 30% federal, 30% provincial, 30% corporate and 10% inflation-linked bonds in plan year 2017.

The assumed ultimate real yield on long-term federal bonds is 2.7%. The initial spreads over the federal bond real yield are assumed to be 80 basis points for provincial bonds and 150 basis points for corporate bonds. These spreads are much higher than in the last report and reflect the current economic environment. The ultimate spreads for provincial and corporate bonds are assumed to be 45 basis points and 90 basis points, respectively, and are reached at the end of plan year 2015. Corporate bond spreads are net of the expected default rate. Real return bonds, on the other hand, have a lower real yield than long-term federal bonds, since the real return is guaranteed and will not vary with inflation. Thus, the spread on inflation-linked bonds is assumed to be -50 basis points initially and will reach its ultimate value of -40 basis points at the end of plan year 2013.

The expected real rates of return for individual bonds take into account the coupons and market value fluctuations due to the expected movement of their respective long-term yield rates. As the economy continues to strengthen (following the 2008-2009 economic downturn), the long-term federal bond yield is assumed to increase between plan years 2012 and 2016 and only stabilize at the end of 2016. Therefore, bond returns are quite low for the first five years of the projection. The assumed ultimate real rate of return for long-term federal bonds is 2.7% starting in plan year 2017. An ultimate real rate of return of 3.1% is assumed for the fixed income portfolio for 2017 and thereafter.

Equity

Most Plan assets are currently invested in equity, specifically in developed world equity and emerging markets equity. In the derivation of the real rates of return for these equity investments, consideration was given to the long-term equity risk premiums for these equity classes. The rates of return also include dividends from the equities and market value fluctuations. No distinction is made between realized and unrealized capital gains.

Since the last actuarial valuation, equity returns have been very volatile. In plan year 2009, the Fund earned a nominal return of -22.7%, but it rebounded with nominal returns of 21.5% and 14.5% in plan years 2010 and 2011, respectively.

Consistent with the assumption that risk taking must be rewarded, equity returns are developed by adding an equity risk premium to the long-term federal bond real rate of return. The historical equity risk premium over bonds for 19 countries, representing almost 90% of global stock market value, for the 111-year period starting in 1900 was 3.8% (3.7% for Canada)[1]. Historical equity risk premiums were higher than expected due to several non-repeatable factors (mainly diversification and globalization). As a result, the long-term expected equity risk premium is assumed to be lower than what was realized in the past. However, the equity risk premium is assumed to be higher in the first five years of the projection (starting at 5.0% in plan year 2012, decreasing to 4.4% in plan year 2015 and to 2.0% for plan year 2017 and thereafter), reflecting assumed low bonds return over the next five years, before reaching its ultimate rate of 2.0% for Canadian and foreign developed markets. The equity risk premium for emerging market equities is expected to be 1.0% higher than for Canadian and foreign

[1] Source: Elroy Dimson, Paul Marsh and Mike Staunton, Credit Suisse Global Investment Returns Yearbook 2011.

developed market equities, reflecting the additional risk inherent with investments in emerging countries. As described in the previous section, the long-term federal bond real yield and real rate of return are set at 2.7% for plan years 2017 and thereafter.

Real rates of return for developed market equity investments are projected at 4.7% (5.7% for emerging markets) throughout the projection period.

Real Return Assets

Real return assets such as real estate and infrastructure are considered to be a hybrid of debt and equity. If these assets are considered to behave 40% like debt and 60% like developed market equities, then the assumed return should be composed of 40% of the return on the fixed income portfolio and 60% of the return on developed market equities. Thus, the assumed real return for these assets increases from 3.1% in plan year 2012 to 4.1% in the long term.

Table 27 summarizes the assumed real rates of return by asset type throughout the projection period, net of transaction costs and investment management fees.

Table 27 Real Rate of Return by Asset Type
(in percentage)

Plan Year	Fixed Income Securities	Canadian Equity	U.S. and Foreign Equity	Emerging Market Equity	Real Estate & Infrastructure
2012	0.7	4.7	4.7	5.7	3.1
2013	0.7	4.7	4.7	5.7	3.1
2014	1.5	4.7	4.7	5.7	3.4
2015	1.6	4.7	4.7	5.7	3.5
2016	2.0	4.7	4.7	5.7	3.6
2017+	3.1	4.7	4.7	5.7	4.1

c) Overall Rate of Return on Fund

The best-estimate rate of return on total assets was derived from the weighted average assumed rate of return on all types of assets, using the assumed asset mix proportions as weights. The best-estimate rate of return is further reduced to reflect PSPIB operating expenses. Over the last three plan years, operating expenses have been, on average, equal to about 0.20% of average net assets. It is assumed that going forward operating expenses will remain at 0.20% of average net assets. Therefore, the rates of return described in this section are net of all investment expenses (0.30%), that is, 0.10% for transaction costs and investment management fees and 0.20% for operating expenses. The resulting nominal and real rates of return are shown in table 28.

Table 28 Rates of Return on Assets in Respect of the Pension Fund
(in percentage)

Plan Year	Nominal	Real
2012	5.5	3.5
2013	5.5	3.5
2014	5.7	3.7
2015	5.7	3.7
2016	5.8	3.8
2017	6.1	4.1
2018	6.2	4.1
2019	6.3	4.1
2020+	6.4	4.1

For Plan assets, it is assumed that the ultimate real rate of return on investments will be 4.1%, net of all investment expenses. This represents a reduction of 0.2% from the previous valuation. The real rate of return on PSPIB assets takes into account the assumed asset mix of investments as well as the assumed real rate of return for all categories of PSPIB assets. The nominal returns projected for the Fund are simply the sum of the assumed level of inflation and the real return on the Fund.

4. **Transfer Value Real Interest Rate**

Commuted values are calculated in accordance with the Standards of Practice published by the Canadian Institute of Actuaries. In particular, the real interest rates to be used for the computation of commuted values as at a particular date are as follows:

First 10 years: $r_7 + 0.90\%$

After 10 years: $r_L + 0.5 \times (r_L - r_7) + 0.90\%$

Where $r_7 = r_L \times (i_7/i_L)$

r_L is the long-term real-return Government of Canada bond yield, annualized

i_L is the long-term Government of Canada benchmark bond yield, annualized and

i_7 is the 7-year Government of Canada benchmark bond yield[1], annualized

The obtained rates of interest are rounded to the next multiple of 0.10%.

For example, for plan year 2012, the assumed real rates of interest are 2.5% for the first 10 years and 2.7% thereafter. These rates were derived from the assumed 2012 CPI increase and the assumed 2012 long-term Government of Canada benchmark bond yield which corresponds to the new money rate in this valuation.

The economic assumptions used in this report are summarized in the following table.

[1] It was deemed to be equal to 90% of the long-term Government of Canada benchmark bond yield.

5. Summary of Economic Assumptions

Table 29 Economic Assumptions[1]
(As a percentage)

	Inflation		Employment Earning Increases			Interest		
Plan Year	CPI Increase	Pension Indexing[2]	YMPE	Average Pensionable Earnings[3]	Maximum Pensionable Earnings[4]	New Money Rate	Yield Projected on Account	Return Projected on Fund
2012	2.0	**2.8**	**3.7**	1.5	**3.7**	3.8	6.0	5.5
2013	2.0	2.0	2.5	2.0	2.5	4.0	5.7	5.5
2014	2.0	2.0	2.7	2.6	2.7	4.2	5.5	5.7
2015	2.0	2.0	2.8	2.7	2.8	4.4	5.3	5.7
2016	2.0	2.0	2.9	2.8	2.9	4.6	5.1	5.8
2017	2.0	2.0	3.0	2.9	3.0	4.7	4.9	6.1
2018	2.1	2.0	3.1	3.0	3.1	4.8	4.8	6.2
2019	2.2	2.1	3.3	3.2	3.3	4.9	4.7	6.3
2020	2.3	2.2	3.5	3.4	3.5	5.0	4.6	6.4
2021	2.3	2.3	3.6	3.5	3.6	5.0	4.6	6.4
2025	2.3	2.3	3.6	3.5	3.6	5.0	4.4	6.4
2030	2.3	2.3	3.6	3.5	3.6	5.0	4.6	6.4
2035+	2.3	2.3	3.6	3.5	3.6	5.0	5.0	6.4

For the period ending December 2010, the following table was prepared based on the Canadian Institute of Actuaries Report on Canadian Economic Statistics 1924-2010.

Period of Years Ending 2010	15	25	50
Level of Inflation	1.96%	2.45%	4.11%
Real Increases in Average Earnings	0.51%	0.34%	0.98%
Real Return on Long-Term Canada Bonds	6.04%	6.97%	3.78%
Average Real Return on Diversified Portfolios	5.52%	6.01%	4.33%

1 Bold figures denote actual experience.
2 Assumed to be effective as at 1 January.
3 Assumed to be effective as at 1 January. Exclusive of seniority and promotional increases.
4 Calendar year 2012 Maximum Pensionable Earnings is $148,000.

Appendix 7 – RCMPSA Demographic and Other Assumptions

A. Demographic Assumptions

Given the size of the population subject to the RCMPSA and the somewhat unique characteristics of the pension benefit provisions, the plan's own experience, except where otherwise noted, was deemed to be the best model to determine the demographic assumptions. Assumptions from the previous valuation were updated to reflect past experience to the extent it was deemed credible.

The determination of some demographic assumptions also takes into account general or specific information provided by the RCMP.

1. Seniority and Promotional Salary Increases

Seniority means length of service and *promotion* means moving to a higher rank.

The seniority and promotional salary increase assumption for Regular Members was changed from the previous valuation. It was increased at service durations 4 to 25; the increment is on average 0.15% by duration. The assumption fully recognizes the Service Pay Allowance granted on every fifth service anniversary (1.5% for every five years of service, up to and including 35 years of service) and the 4% Senior Constable Provisional Allowance granted after seven completed years of service.

The assumption for Civilian Members was changed from the previous valuation. It was decreased at durations 4 to 12; the decrement is on average 0.15% by duration.

Table 30 Assumed Seniority and Promotional Salary Increases
(Percentage of annual earnings)

Regular Members		Civilian Members	
Completed Years of Service in the Force	Increase	Completed Years of Pensionable Service	Increase
0	23.0	0	6.0
1	8.0	1	5.2
2	7.0	2	4.5
3	0.5	3	3.9
4	2.0	4	3.3
5	0.5	5	2.9
6	4.5	6	2.7
7	0.7	7	2.6
8	0.7	8	2.3
9	2.2	9	2.0
10	0.7	10	1.9
15	0.9	15	1.5
20	1.0	20	1.2
25	0.9	25	1.0
30	0.6	30	1.0

2. New Contributors

The new contributor assumption was changed from the previous valuation. The number of new contributors assumption was decreased for plan years 2012 to 2014. Based on discussions with the RCMP management, it is on average 1% lower per annum for Regular Members and on average 2.5% lower per annum for Civilian Members. The projected number of Regular Members was split between males and females to recognize that the proportion of female Regular Members is increasing. By plan year 2028 it is assumed that female Regular Members would represent 25% of the Regular Members population (the current proportion of female Regular Members is 20%). In accordance with the projected annual increase for the Canadian population for plan year 2031, it is assumed that the ultimate level of population increase would be 0.4% for plan year 2031 and thereafter.

Table 31 Assumed Annual Increases in Number of Contributors
(Percentage)

Plan Year	Regular Members		Civilian Members	
	Male	Female	Male	Female
2012	2.5	4.0	4.4	4.4
2013	2.2	3.8	4.0	4.0
2014	2.0	3.6	3.6	3.6
2015	1.5	3.5	3.2	3.2
2016	1.3	3.3	3.0	3.0
2021	0.7	2.4	2.4	2.4
2026	0.6	1.5	1.7	1.7
2031+	0.4	0.4	0.4	0.4

For each subgroup, the age distribution of new contributors is based on the distribution of actual new contributors during the intervaluation period. As demographic characteristics at entry and qualifications are constantly evolving, short-term experience was deemed a better model to determine the demographics of new entrants.

The initial salary of new Civilian Members in a given age-sex cell in plan year 2012 is assumed to be the same as the corresponding experience in plan year 2011 increased by 1.5% (assumed salary increase for plan year 2012). The initial salary for Regular Members is $48,104. Initial salary is assumed to increase in future plan years in accordance with the assumption for average earnings increases.

3. Pensionable Retirement

As in the previous valuations, assumed rates of pensionable retirement for Regular Members were again updated for this valuation. Experience analysis shows that Regular Members have been delaying retirement. The average service in the force at retirement has increased by 2 years in the last 10 years (the average age at retirement has increased by 3.5 years). The average service in the force for Regular Members who retired in the intervaluation period is 31.8 years (with an average age of 55.0); it was 31.3 in the previous valuation (with an average age at retirement of 54.0). Pensionable retirement rates for Regular Members were decreased in this valuation to reflect this trend and are, on average, 10% lower than previous valuation retirement rates.

Pensionable retirement rates for Regular Members were also expanded to age 64 to recognize that more and more Regular Members are delaying retirements past age 60.

Table 32 Assumed Rates of Pensionable Retirement - Regular Members
(Per 1,000 individuals)

Age Last Birthday	Completed Years of Service in the Force						
	19	20-22	23	24-28	29-33	34	35+
40	10	10	-	-	-	-	-
45	20	20	40	50	-	-	-
50	30	30	50	60	70	-	-
55	50	60	140	150	180	400	500
60	600	600	600	600	600	600	600
64	1,000	1,000	1,000	1,000	1,000	1,000	1,000

Based on the intervaluation experience, assumed rates of pensionable retirement for Civilian Members were also changed for this valuation. They are slightly lower at younger ages and at lower durations.

Table 33 Assumed Rates of Pensionable Retirement - Civilian Members
(Per 1,000 individuals)

Age Last Birthday	Completed Years of Pensionable Service							
	1-8	9-13	14-18	19-23	24-28	29-33	34	35
50	10	10	10	10	10	40	-	-
55	10	20	40	60	60	100	500	500
60	100	200	200	200	200	200	500	500
64	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

4. Disability Retirement

Disability retirement rates for Regular Members were increased significantly beginning with the 1999 valuation when the experience showed many more disabilities than expected. This finding was investigated with the RCMP and a change of policy was confirmed. Based on the intervaluation experience, it appears appropriate to again increase disability rates for this valuation. Assumed rates for Regular Members are on average 15% higher.

Disability retirement rates for Civilian Members were also changed for this valuation; they are on average 15% lower at young ages but on average 15 % higher after age 45.

As in the previous valuation, it is assumed that 25% of future new disability pensioners will receive a CPP disability pension.

Table 34 Assumed Rates[1] of Pensionable Disability
(Per 1,000 individuals)

Age Last Birthday	Regular Members	Civilian Members
30	2.0	0.5
40	5.0	2.0
50	20.0	8.0
59	60.0	15.0

1 Rates do not apply if the sum of the age (minimum 55 years) and the years of pensionable service is at least 85. Rates are halved for the plan year in which this criterion is first met or ceased to be met.

5. Withdrawal

Withdrawal means ceasing to be employed for reasons other than death or retirement with an immediate annuity or an annual allowance.

Rates for Regular Members are, on average, 15% lower at early service durations (0 to 5 years of service) and rates for Civilian Members are, on average, 5% lower than those used in the previous valuation at early service durations. Vested Regular Members (with at least two years of service) under age 60 and vested Civilian Members under age 50 are assumed to choose to transfer the commuted value of the deferred annuity.

Table 35 Assumed Withdrawal Rates
(Per 1,000 individuals)

Completed Years of Service	Regular Members	Civilian Members
0	20	30
1	14	29
5	9	25
10	5	15
15	3	5
20+	0	0

6. Mortality

Mortality rates for male Regular Members, which are based on past experience, have been slightly modified; they are, on average, 2% lower at ages 55 to 70. Rates for female Regular Members are as projected in the previous valuation. Minor adjustments were also made to older ages that have a negligible impact on the results of this valuation.

Mortality rates for Civilian Members, surviving spouses and disabled pensioners were also changed. They are the same as those from the most recent actuarial report (31 March 2008) on the pension plan for the Public Service of Canada projected to plan year 2012. Given the size of the population of the pension plan for the Public Service of Canada, it was deemed to be a more appropriate model to determine the mortality assumptions for these groups.

Table 36 Assumed Rates of Mortality
For 2012 Plan Year (per 1,000 individuals)

Age Last Birthday	Regular Members		Civilian Members		Surviving Spouses		Disabled	
	Male	Female	Male	Female	Male	Female	Male	Female
30	0.5	0.3	0.5	0.3	1.2	0.4	7.1	6.5
40	0.9	0.6	0.8	0.5	2.6	0.8	12.8	7.5
50	1.9	1.0	2.0	1.3	4.0	2.3	16.5	8.6
60	4.7	3.1	6.1	3.9	8.6	5.0	21.9	13.2
70	14.4	9.6	19.1	12.5	23.9	14.0	43.5	26.1
80	50.8	28.6	60.0	39.6	64.8	39.3	94.3	64.5
90	145.2	93.2	165.3	126.0	171.4	124.6	209.3	174.4
100	280.0	230.0	351.0	315.0	353.4	316.8	480.0	440.0
110+	500.0	500.0	500.0	500.0	500.0	500.0	500.0	500.0

As shown in the 25th Actuarial Report on the Canada Pension Plan, life expectancy in Canada has been increasing constantly over the years. This trend is also observed with the Royal Canadian Mounted Police membership as supported by analysis of past mortality experience. Mortality rates are reduced in the future in accordance with the same longevity[1] improvement assumption used in the 25th Actuarial Report on the Canada Pension Plan. For both males and females, the longevity improvement factors are higher than those used in the previous valuation except at advanced ages. Factors shown in the 25th Actuarial Report of the Canada Pension Plan are based on calendar years. These factors have been interpolated to obtained plan year longevity improvement factors.

The ultimate longevity improvement factors for plan years 2031 and thereafter were established by analysing the trend by age and sex of the Canadian experience over the period 1921 to 2006. Improvement factors for plan year 2012 are assumed to be those experienced on average over the 15-year period 1991 to 2006. After plan year 2012, the factors are assumed to reduce gradually to their ultimate level by plan year 2031.

A sample of assumed longevity improvement factors is shown in the following table.

Table 37 Assumed Longevity Improvement Factors

Age Last Birthday	Initial and Ultimate Plan Year Mortality Reductions[2] (%)			
	Male		Female	
	2012	2031+	2012	2031+
30	2.77	0.80	1.55	0.80
40	2.11	0.80	1.32	0.80
50	1.83	0.80	1.26	0.80
60	2.30	0.80	1.37	0.80
70	2.49	0.80	1.46	0.80
80	2.01	0.70	1.45	0.70
90	1.15	0.44	0.68	0.44
100	0.35	0.30	0.11	0.30
110+	0.02	0.30	0.02	0.30

7. Family Composition

Assumptions for the proportion of members leaving, upon death, a spouse eligible for a survivor pension is unchanged from the previous valuation. The age assumption for new survivors is also unchanged.

[1] In this report 'longevity improvement assumption' is equivalent to the 'mortality improvement assumption' discussed in the 25th Actuarial Report on the Canada Pension Plan.

[2] The mortality rate reduction applicable during any plan year within the 20-year select period is found by linear interpolation between the figures for plan years 2012 and 2031.

Table 38 Assumptions[1] for Survivor Spouse Allowances

Age Last Birthday at Death	Male: Probability of an Eligible Spouse at Death of member	Male: Spouse Age Difference	Female: Probability of an Eligible Spouse at Death of member	Female: Spouse Age Difference
30	0.70	(1)	0.50	2
40	0.85	(1)	0.55	2
50	0.85	(2)	0.55	3
60	0.85	(3)	0.50	3
70	0.80	(3)	0.40	2
80	0.65	(3)	0.30	2
90	0.40	(5)	0.10	0
100	0.15	(8)	0.00	(3)

All assumptions regarding eligible children are not materially changed from the previous valuation. As in the previous valuation, to determine the value of pensions payable to eligible children, the rates of pension termination were assumed to be zero prior to age 17 and 15% per annum thereafter until expiry of the benefit on the 25th birthday.

Table 39 Assumptions for Survivor Children Allowances[2]

Age Last Birthday at Death	Male: Average Number of Children	Male: Average Age of Children	Female: Average Number of Children	Female: Average Age of Children
30	0.9	4	0.8	3
40	1.3	12	1.2	11
50	0.8	19	0.6	19
60	0.1	21	0.1	23
70+	0.0	-	0.0	-

B. Other Assumptions

1. Pension Benefits Division / Optional Survivor Benefit / Leave Without Pay

The division of pension benefits has almost no effect on the valuation results because the liability is reduced, on average, by approximately the amount paid to the credit of the former spouse. Consequently, no future pension benefits divisions were assumed in estimating the current service cost and liability. However, past pension benefits divisions were fully reflected in the liability. Two other provisions, namely the optional survivor benefit and the suspension of membership while on leave without pay, were also treated like pension benefits divisions for the same reason.

2. Minimum Postretirement Death Benefit

This valuation does not take into account the minimum death benefit described in Note 16 of section D of Appendix 1, with respect to deaths occurring after retirement. The resulting understatement of the accrued liability and current service cost is not material since the majority of the relatively few pensioners who die in the early years of retirement leave an eligible survivor.

1 Does not apply if the deceased member was a contributor with less than two years of pensionable service.
2 Payable unless the deceased member was a contributor with less than two years of pensionable service.

3. Administrative Expenses

In the previous report, the Public Service Pension Investment Board (PSPIB) operating expenses were implicitly recognized through a reduction in the real return on the Fund. In this report, the operating expenses of the PSPIB are still recognized implicitly.

As in the previous valuation, it is estimated that administrative expenses will be 0.40% of pensionable payroll. In plan year 2012 the Account is assumed to be charged with 70% of the total expenses based on recent experience, which is 6% lower than assumed in the previous valuation, reducing by 2% each year thereafter. The future expenses expected to be charged to the Account have been capitalized and are shown as a liability on the balance sheet, whereas the expenses to the Fund have been added to the normal cost as they occur.

A specific project is underway to bring the administration of the RCMP pension plan at Public Works Government Services Canada. The expected costs of $90 million, provided by the RCMP management, over the next three years are to be debited directly from the Superannuation Account and the Pension Fund. The capitalized value of the expected costs based on the assumed allocation percentages for the Account and the Fund are recognized as a liability in this valuation.

4. Financing of Elected Prior Service

In accordance with the current prior service financing policy, the government credits to the Account in respect of prior service elections are assumed to be 100% of the resulting contributions made by the contributors; the corresponding figure for the Fund is determined in accordance with the allocation of current service cost where the government is assumed to contribute in the same proportions.

5. Outstanding Terminations

Payments owing to former contributors as at 31 March 2011 are ignored in this valuation. The consequent understatement of liability is negligible because there were very few such cases and the average amount owing was modest.

6. Disability Incidence Rates for Pensioners Under Age 60

Both deferred pensioners and pensioners receiving an annual allowance while under age 60 are assumed to have a 0% disability rate. The resulting understatement of liability and current service cost is negligible.

7. Recovery Rates for Disability Pensioners

No recoveries are assumed for disability pensioners. The resulting overstatement of liability and current service cost is negligible.

8. Sex of Surviving Spouses

Each eligible surviving spouse is assumed to be of the opposite sex of the member.

Appendix 8 – RCA Valuation Methodology and Assumptions

A. Valuation of the Amounts Available for Benefits

The amounts available for benefits in respect of the RCA comprise the recorded balance in the Retirement Compensation Arrangements Account, which forms part of the Public Accounts of Canada, as well as a tax credit (CRA refundable tax).

Interest is credited every three months in accordance with the actual average yield on a book value basis for the same period on the combined Superannuation Accounts of the Public Service, Canadian Forces – Regular Force and Royal Canadian Mounted Police pension plans. The actuarial asset value is equal to the book value.

B. Valuation of Liabilities

Described in this appendix are the liability valuation methodologies used and any differences in economic assumptions from those used in the RCMPSA valuation.

1. RCA Postretirement Survivor Benefits

The limit on the amount of spousal annual allowance that can be provided under the RCMPSA decreases at the same time the member's pension is reduced due to the CPP coordination offset, which usually occurs at age 65.

This benefit was valued conservatively by assuming the plan limit is always reduced by the CPP coordination offset. The liability overstatement is minor because the probability of the former contributor dying prior to age 65 is small. This overstatement tends to be offset by the understatement of accrued liability caused by terminally funding the preretirement survivor benefit. The projected accrued benefit cost method was used to estimate the liability and current service cost for this RCA benefit.

2. Excess Pensionable Earnings

The projected accrued benefit cost method (described in detail in Appendix 5B) was used to estimate the liability and current service cost for retirement benefits in excess of the Maximum Pensionable Earnings.

3. Administrative Expenses

To compute the liability and current service cost, no provision was made regarding the expenses incurred for the administration of the RCA. These expenses, which are not debited from the RCA Account, are borne entirely by the government and are combined with all other government expenses.

C. Actuarial Assumptions

The valuation economic assumptions are those described in Appendix 6 and shown in Table 29, except that the interest discount rate used to determine the liability and current service cost in respect of the RCA is one-half of the yield projected on the combined Superannuation Accounts.

The demographic assumptions for the RCA valuation are the same as those used for the RCMPSA valuation as described in Appendix 7.

D. Valuation Data

Pension benefits in payment to be debited from the RCA were provided as at 31 March 2011. Details on the RCA valuation data for current pensioners are shown in Table 59 of Appendix 12.

Appendix 9 – Superannuation Account Projection

Prior to 1 April 2000, the RCMPSA was entirely financed through the RCMP Superannuation Account. The Account is now debited only with benefit payments made in respect of service earned before that date and administrative expenses; and it is credited with prior service contributions related to elections made prior to 1 April 2000 and interest earnings.

The results of the following projection were computed using the amounts available for benefits described in Appendix 3, the data described in Appendices 4 and 12, the methodology described in Appendix 5 and the assumptions described in Appendices 6 and 7.

The projection shows the expected cash flows and balances of the Superannuation Account if all assumptions are realized. If the Account balance exceeds 110% of the liability, an actuarial excess reduction is triggered to bring the balance down to 110% and is reflected in this projection. Emerging experience, differing from the corresponding assumptions, will result in gains or losses to be revealed in subsequent valuation reports. Based on the assumptions of this report, the Superannuation Account is expected to start decreasing by plan year 2017.

Table 40 Superannuation Account Projection
($ millions)

Plan Year	Beginning Account Balance	Beginning Liability	Beginning Actuarial Excess	Actuarial Excess Reduction	Net Payments[1]	Interest Earnings
2012	12,856	12,574	282	-	583	754
2013	13,027	12,726	301	-	613	725
2014	13,139	12,819	320	-	639	705
2015	13,205	12,868	337	-	642	683
2016	13,246	12,890	356	-	663	659
2017	13,242	12,868	374	-	683	632
2018	13,191	12,798	393	-	701	617
2019	13,107	12,695	412	-	715	599
2020	12,991	12,558	433	-	728	581
2021	12,844	12,390	454	-	742	574
2025	12,011	11,469	542	-	784	511
2030	10,513	9,839	674	-	793	466
2035	8,854	8,002	852	52	753	422
2040	6,794	6,113	681	70	668	320
2045	4,753	4,268	485	58	544	221
2050	2,988	2,676	312	44	398	137

[1] Benefit payments plus administrative and modernization expenses minus prior service contributions.

Appendix 10 – Pension Fund Projection

Starting 1 April 2000, the RCMPSA is financed through the RCMP Pension Fund. The Fund is credited with government and employee contributions, investment earnings and with prior service contributions for elections since 1 April 2000. The Fund is debited with benefit payments made in respect of service earned since that date and administrative expenses.

The results of the following projection were computed using the data described in Appendices 4 and 12, the methodology described in Appendix 5 and the assumptions described in Appendices 6 and 7.

The projection shows the expected growth of the Pension Fund if all assumptions are realized. According to the projection, cash flows are expected to be positive until plan year 2035. Emerging experience, differing from the corresponding assumptions, will result in gains or losses to be revealed in subsequent valuation reports.

Table 41 Pension Fund Projection
($ millions)

Plan Year	Expected Unrecognized Investment (Gains)/Losses	Present Value of Prior Service Contributions	Beginning Market Value of Assets	Contributions[1]	Payments[2]	Investment Earnings	Special Payment at End of Plan Year	Beginning Actuarial Liabilities
2012	(70)	16	4,114	437	89	233	-	4,623
2013	(149)	14	4,697	454	110	267	54	5,231
2014	(189)	12	5,364	473	129	314	54	5,871
2015	(57)	11	6,077	494	139	356	54	6,558
2016	-	9	6,844	515	161	406	54	7,295
2017	-	8	7,659	537	186	477	54	8,081
2018	-	7	8,542	563	212	539	54	8,935
2019	-	6	9,487	594	239	608	54	9,850
2020	-	6	10,504	627	266	684	54	10,836
2021	-	5	11,604	660	297	753	54	11,902
2022	-	4	12,775	692	331	829	54	13,038
2023	-	4	14,019	727	370	908	54	14,244
2024	-	3	15,339	764	411	993	54	15,524
2025	-	3	16,739	801	456	1,082	54	16,882
2026	-	3	18,220	840	505	1,176	54	18,320
2027	-	2	19,786	881	560	1,278	54	19,839
2028	-	2	21,439	924	619	1,382	-	21,441
2030	-	2	24,896	1,007	755	1,602	-	24,898
2040	-	1	46,685	1,449	1,878	2,975	-	46,686
2050	-	-	75,453	2,106	3,525	4,785	-	75,453

[1] Total current service cost plus prior service contributions.
[2] Benefit payments plus modernization and administrative expenses.

Appendix 11 – Uncertainty of Results

A. Introduction

The financial status of the Plan depends on many demographic and economic factors, including new contributors, average earnings, inflation, level of interest rates and investment returns. The projected long-term financial status of the Plan is based on best-estimate assumptions; the objective of this section is to present alternative scenarios. The alternatives presented illustrate the sensitivity of the long-term projected financial position of the Plan to changes in the future economic outlook. In this appendix, any references to assets, liabilities, surplus/(deficit), annual special payments and service cost relates to the Pension Fund.

Section B examines the sensitivity of the Plan to different asset allocations. Five alternative investment portfolios are described, along with the volatility of each portfolio and the resulting impact on the Plan's financing ratio and current service cost. The impact of financial market volatility on the financial status of the Plan is explored in section C, where severe one-time financial shocks are applied to three investment portfolios with the purpose of quantifying the impact on the financing ratio over the short term. Finally, section D analyzes the cumulative impact of PSPIB active management decisions since 1 April 2000.

B. Sensitivity of Investment Policy

A major risk all pension plans face is funding risk – the risk that assets backing the liabilities are insufficient to meet pension obligations. If funding deficiencies or surpluses continue for an extended period of time, risk is transferred from one generation to another and may ultimately take the form of an increase or a decrease in the contribution rate.

The RCMPSA represents a long-term obligation to pay pension benefits. Thus, a long-term approach must be taken to fund these obligations. Long-term Government of Canada bonds are considered risk-free and their yields are considered low. The real yield on long-term federal bonds was around 1.8% in March 2011. This is significantly below the required real return on assets of 4.1% that is needed to sustain the plan at the current contribution rate.

By investing solely in risk-free long-term federal bonds, all funding risk could be eliminated with an excessive cost and then at the detriment of current and future contributors who will have to contribute more unless benefits were decreased. If PSPIB were to switch from the current portfolio of fixed and variable income securities to a portfolio that consists of only long-term Government of Canada bonds, the current service cost of the plan would have to increase substantially in order to maintain the current funding status or benefits would have to be reduced. Neither of these is a desirable option. The Government created the PSPIB to invest amounts equal to the Plan's contributions in excess of benefits with the purpose of maximizing investment returns without undue risk of loss. The current service cost is less than it would have been if the investment policy had been restricted to long-term government bonds. Diversifying the portfolio into a mix of fixed and variable income securities accomplishes this.

The current service cost can be reduced by investing in securities that offer a higher rate of return than risk-free long-term federal bonds, but that also have a higher degree of risk or volatility. That is, funds can be invested in a mix of investments, such as equities and bonds, with the expected rate of return equal to the yield required to meet the plan's funding requirements. By investing in riskier assets, investors hope to realize the equity risk premium as their reward for taking on additional risk. An equity risk premium is the difference between the expected return on the risky asset (equity) and the expected return on a risk-free asset, such as the Government of Canada long-term bond mentioned above.

Of course, these higher returns are expected but not guaranteed, creating the very real possibility that the market will not perform as expected and liabilities will grow at a faster rate than investments for an extended period of time. This is known as market risk. Since investing solely in risk-free long-term federal bonds will not produce a return sufficient to maintain the plan at status quo, it is necessary to take some risk in order to increase the probability of earning a sufficient return. Even if investment returns materialize as expected, other assumptions may not, causing liabilities to grow at a faster rate than assets. For example, salaries or inflation may increase at a higher rate than expected. The amount of risk assumed by the plan sponsor depends on many factors, including the current funding status and economic outlook, among other things. Thus, the investment policy must balance the Plan's desire for a high real rate of return with the sponsor's tolerance or capacity for taking risk.

The following table shows the impact that various asset mixes would have on the financing ratio and the long-term service cost, as well as their relative volatility.

Table 42 Investment Policy Impact on Liability Financing

	Assets Mixed							
Portfolio	Fixed Income	Equity	Real Return	Ultimate Real Rate of Return	1 year Standard Deviation	Pension Assets Financing Ratio as at 31 March 2011	Current Service Cost (2017)	Annual Special Payment ($ millions)
#1	100%	0%	0%	2.7%	9.0%	60%	32.4%	239
#2	100%	0%	0%	3.1%	8.1%	67%	29.0%	184
#3	80%	15%	5%	3.4%	8.1%	73%	26.8%	144
#4	50%	35%	15%	3.8%	9.9%	80%	24.1%	95
Best-Estimate	20%	55%	25%	4.1%	12.9%	88%	22.4%	54
#5	0%	100%	0%	4.5%	18.0%	97%	20.3%	7

Although the riskiest portfolio leads to the highest expected return, the highest financing ratio and the lowest required current service cost, its volatility is significantly higher which may lead to significant additional contribution requirements.

Portfolio #1 is invested in long-term federal bonds. This portfolio does not result in a feasible scenario due to its prohibitive cost; however, its volatility is low when compared to the other portfolios considered. Portfolio #2 is invested in a marketable bond portfolio consisting of federal, provincial, corporate and real return bonds. This diversification increases the real rate of return earned on the portfolios and reduces its volatility compared to the first portfolio since the four bond asset categories are not perfectly correlated. Although this portfolio produces a higher real rate of return compared to Portfolio #1, it is still not sufficient to ensure the plan remains fully funded while maintaining an acceptable current service cost. This is also a low risk, low return portfolio. Thus, a portfolio with greater diversification in variable income assets is required in order to keep funding cost to a reasonable level.

The following portfolios are diversified portfolios that combine equity and real return assets, such as real estate and infrastructure, to fixed income securities. Portfolio #3 and portfolio #4 are more diversified than the first two portfolios and are invested 15% and 35%, respectively, in equity. This diversification increases the real rate of return earned on these portfolios and keeps their volatility comparable to the first two portfolios since the three broad asset categories are not perfectly correlated. However, despite an increased real return and similar risk, these portfolios are still not sufficient to maintain the current funded ratio. Thus, an increase in the plan's current service cost would be required with both portfolios. Since an increase to the current service cost is not desirable, it is necessary to invest in a slightly more risky portfolio.

Portfolio #5 is considered a more risky portfolio because it is entirely invested in equity which has much more volatile returns than bonds. This portfolio is likely to result in higher than necessary returns, resulting in either an improvement to the plan's funding ratio or a decrease to the current service cost. However, the volatility of this portfolio is quite high. By investing in a less risky portfolio, a reasonable current service cost can still be achieved along with lower volatility, and therefore, a lower probability of significant losses and large unforeseen additional contributions.

The best-estimate portfolio is invested 20% in fixed income securities, 55% in equity and 25% in real return assets in the long-term, which is very close to PSPIB's current long term asset-mix objective. Such a portfolio produces an ultimate annual real return of 4.1% net of all investment expenses (transaction costs, investment management fees and operating expenses, together assumed to total 0.30% of assets) with a standard deviation of 12.9%. By observing the volatility of each of the portfolios in table 42, it can be concluded that a certain degree of risk must be undertaken in order to earn a sufficient return. Thus, an asset allocation such as the best-estimate portfolio shows that an average real return of 4.1% can be achieved with some degree of risk. More risky portfolios, such as portfolios #5, may produce a higher real return, on average, but with a higher degree of risk.

C. Financial Market Tail Events

This section focuses on the volatility present in the best-estimate portfolio and the extreme outcomes that could result. During plan year 2009, the nominal return on Plan assets was -22.7% due to the economic slowdown. Such an event could be characterized as low probability (also referred to as a "tail event"). However, when these events do occur, the impact on the financing ratio is significant. This section analyzes the impacts that tail events in portfolio returns will have on the Plan's financing ratio. To illustrate this, portfolio returns other than the best-estimate are assumed to occur in plan year 2014. Two alternative portfolios were selected from section B to show the potential variation in tail returns of a less risky (Portfolio 4: 35% equity, 15% real estate and infrastructure, 50% fixed income) and a more risky (Portfolio 5: 100% equity) portfolio in relation to the best-estimate portfolio.

It is assumed that the returns of the three portfolios follow a normal distribution. The mean and standard deviation for each portfolio is given in table 42 in section B. Two probability levels were selected to analyze: 1/10 and 1/50. These levels can be thought of as the probabilities of earning a given return once every 10 and 50 years, respectively. Since the normal distribution has two tails, a left tail and a right tail, both were examined. The left tail event is the occurrence of a nominal return such that the probability of earning that return or less is equal to 1/10 (or 1/50). The right tail event is the occurrence of a nominal return such that the probability of earning that return or more is equal to 1/10 (or 1/50).

For each portfolio a nominal return is calculated for plan year 2014 at the two probability levels. The nominal returns are given in the following table.

Table 43 Tail Event Portfolio Returns

		Portfolio 4: 35% Equities/ 50% Fixed Income/ 15% Real Estate & Infrastructure	Best-Estimate Portfolio: 55% Equities/ 20% Fixed Income/ 25% Real Estate & Infrastructure	Portfolio 5: 100% Equities/
Probability of return[1]	Tail	Nominal Return	Nominal Return	Nominal Return
1/10	Left	-6.9%	-10.4%	-16.6%
	Right	18.5%	22.6%	29.6%
1/50	Left	-14.5%	-20.4%	-30.5%
	Right	26.1%	32.6%	43.5%

Table 44 shows the impact on the projected Surplus/ (Deficit) as at 31 March 2014 if the nominal return for plan year 2014 happens to be equal to the returns presented in table 43 for the best-estimate scenario. Following the various portfolio returns in plan year 2014, it is assumed that the return revert back to its best-estimate value for plan year 2015.

Table 44 Sensitivity of the Projected Surplus/(Deficit) as at 31 March 2014
($ millions)

Assumption(s) Varied	MarketValue of Assets	Liability	Surplus/ (Deficit)	Annual Special Payments[2]
None (i.e. current basis)	6,088	6,558	(470)	52
Investment return				
- Left Tail event at 1/10th probability	5,186	6,558	(1,372)	152
- Right Tail event at 1/10th probability	7,011	6,558	453	-
- Left Tail event at 1/50th probability	4,631	6,558	(1,927)	213
- Right Tail event at 1/50th probability	7,563	6,558	1,005	-

1 The probability of earning the positive returns in the table corresponds to the probability that the annual return is greater than or equal to the indicated return. Similarly, the probability of earning a negative portfolio return corresponds to the probability of earning the indicated return or less.

2 Equal annual special payments to amortize the deficit over the next 15 years starting 31 March 2016.

Appendix 12 – Detailed Membership Data

Table 45 Male Regular Member Contributors
Number and Average Annual Pensionable Earnings[1] as at 31 March 2011

Age Last Birthday	Completed Years of Service in the Force								All Years of Service
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35	
To 24	559	2	-	-	-	-	-	-	561
	$66,858	$79,104							$66,901
25-29	1,651	349	-	-	-	-	-	-	2,000
	$71,251	$79,892							$72,759
30-34	1,201	1,106	226	2	-	-	-	-	2,535
	$72,296	$81,173	$85,994	$85,644					$77,401
35-39	755	963	795	105	1	-	-	-	2,619
	$72,430	$81,680	$87,075	$90,187	$86,532				$80,994
40-44	344	487	628	529	474	4	-	-	2,466
	$72,479	$81,869	$87,629	$92,882	$99,148	$105,426			$87,748
45-49	105	138	196	304	1,229	356	20	-	2,348
	$70,299	$81,750	$87,245	$91,867	$98,163	$106,430	$110,200		$95,581
50-54	32	38	51	95	439	574	744	16	1,989
	$76,628	$82,518	$86,434	$90,336	$93,814	$103,870	$109,246	$122,356	$101,870
55-59	7	5	12	21	104	110	350	226	835
	$96,626	$82,894	$89,561	$84,842	$92,231	$95,266	$104,998	$113,813	$103,580
60+	-	2	4	3	18	15	28	75	145
	-	$83,640	$87,189	$88,776	$90,111	$92,726	$97,575	$109,385	$101,595
All Ages	4,654	3,090	1,912	1,059	2,265	1,059	1,142	317	15,498
	$71,329	$81,341	$87,145	$91,910	$97,185	$103,685	$107,674	$113,196	$86,207

Average age: 40.4 years

Average service in the force: 13.3 years

Average pensionable service: 13.5 years

Annualized pensionable payroll[2]: $1,297.3 million

1 As defined in Note 1 in Section D of Appendix 1.
2 The aggregate pensionable earnings of all contributors with less than 35 years of pensionable service.

Table 46 Female Regular Member Contributors
Number and Average Annual Pensionable Earnings[1] as at 31 March 2011

Age Last Birthday	Completed Years of Service in the Force								All Years of Service
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35	
To 24	121	-	-	-	-	-	-	-	121
	$65,751								$65,751
25-29	451	139	-	-	-	-	-	-	590
	$71,198	$79,621							$73,183
30-34	295	410	127	1	-	-	-	-	833
	$72,603	$80,976	$84,911	$88,704					$78,620
35-39	135	232	384	69	2	-	-	-	822
	$71,695	$81,521	$86,142	$90,014	$90,456				$82,800
40-44	62	98	201	189	147	-	-	-	697
	$71,937	$81,515	$85,544	$90,659	$94,967				$87,142
45-49	19	43	57	60	273	94	2	-	548
	$68,042	$81,522	$86,559	$90,462	$97,805	$100,667	$100,692		$94,023
50-54	1	4	14	19	70	73	42	2	225
	$67,812	$81,669	$85,322	$89,473	$95,904	$97,165	$96,869	$113,658	$95,072
55-59	1	3	5	6	17	13	17	3	65
	$77,940	$82,224	$85,428	$90,550	$92,994	$95,033	$109,593	$143,975	$98,560
60+	-	-	-	1	2	-	2	1	6
				$125,028	$85,350		$100,656	$112,836	$101,646
All Ages	1,085	929	788	345	511	180	63	6	3,907
	$71,025	$80,999	$85,802	$90,522	$96,491	$98,840	$100,544	$128,680	$83,275

Average age: 38.0 years

Average service in the force: 11.3 years

Average pensionable service: 11.4 years

Annualized pensionable payroll[2]: $324.6 million

1 As defined in Note 1 in Section D of Appendix 1.
2 The aggregate pensionable earnings of all contributors with less than 35 years of pensionable service.

Table 47 Male Civilian Member Contributors
Number and Average Annual Pensionable Earnings[1] as at 31 March 2011

Age Last Birthday	Completed Years of Pensionable Service 0-4	5-9	10-14	15-19	20-24	25-29	30-34	35	All Years of Service
To 24	17	-	-	-	-	-	-	-	17
	$61,347								$61,347
25-29	143	20	-	-	-	-	-	-	163
	$67,472	$72,792							$68,125
30-34	195	115	23	-	-	-	-	-	333
	$67,404	$76,345	$81,386						$71,457
35-39	124	114	51	13	1	-	-	-	303
	$69,994	$78,797	$79,502	$81,854	$77,100				$75,439
40-44	87	74	56	32	20	-	-	-	269
	$71,930	$79,684	$82,103	$86,183	$77,858				$78,317
45-49	69	62	37	30	52	28	3	-	281
	$74,123	$80,423	$87,244	$83,807	$89,383	$86,770	$87,424		$82,501
50-54	49	45	30	17	34	68	46	4	293
	$72,492	$82,521	$80,421	$82,128	$87,482	$90,719	$88,175	$88,317	$84,051
55-59	18	30	11	14	8	42	36	6	165
	$74,163	$77,664	$79,216	$79,694	$85,538	$89,917	$94,407	$94,662	$85,330
60+	5	9	8	12	5	10	8	7	64
	$79,956	$80,131	$79,634	$82,244	$71,678	$87,143	$89,022	$84,969	$82,527
All Ages	707	469	216	118	120	148	93	17	1,888
	$69,553	$78,605	$81,821	$83,347	$85,827	$89,502	$90,636	$89,178	$77,881

Average age: 42.8 years

Average pensionable service: 10.8 years

Annualized pensionable payroll[2]: $145.5 million

1 As defined in Note 1 in Section D of Appendix 1.
2 The aggregate pensionable earnings of all contributors with less than 35 years of pensionable service.

Table 48 Female Civilian Member Contributors
Number and Average Annual Pensionable Earnings[1] as at 31 March 2011

Age Last Birthday	Completed Years of Pensionable Service 0-4	5-9	10-14	15-19	20-24	25-29	30-34	35	All Years of Service
To 24	21	-	-	-	-	-	-	-	21
	$59,119								$59,119
25-29	174	19	-	-	-	-	-	-	193
	$62,969	$68,297							$63,493
30-34	187	137	16	-	-	-	-	-	340
	$66,213	$69,822	$71,662						$67,924
35-39	146	129	79	10	-	-	-	-	364
	$65,219	$72,280	$75,466	$74,471					$70,200
40-44	116	71	50	35	31	-	-	-	303
	$66,295	$70,626	$78,588	$76,409	$70,784				$70,966
45-49	61	54	48	43	56	33	5	-	300
	$66,792	$67,904	$74,826	$70,687	$78,560	$77,661	$82,882		$72,496
50-54	37	37	22	26	28	41	30	6	227
	$63,867	$67,573	$68,976	$70,882	$73,080	$81,686	$77,331	$83,032	$72,410
55-59	15	18	16	13	17	17	22	9	127
	$65,376	$69,665	$70,752	$65,597	$67,312	$80,001	$72,365	$82,204	$71,304
60+	6	8	7	3	8	14	3	1	50
	$67,036	$64,665	$80,662	$71,304	$75,690	$79,555	$68,436	$89,916	$74,252
All Ages	763	473	238	130	140	105	60	16	1,925
	$65,023	$70,064	$74,973	$72,063	$74,212	$79,864	$75,528	$82,997	$69,922

Average age: 41.6 years

Average pensionable service: 9.9 years

Annualized pensionable payroll[2]: $133.3 million

1 As defined in Note 1 in Section D of Appendix 1.
2 The aggregate pensionable earnings of all contributors with less than 35 years of pensionable service.

Table 49 Male Former Regular Member Retirement Pensioners
Number and Average Annual Pension[1] as at 31 March 2011

Age Last Birthday	Superannuation Account Number	Superannuation Account Average ($)	Pension Fund Number	Pension Fund Average ($)
To 39	3	5,802	55	5,555
40-44	8	10,312	13	8,533
45-49	129	24,390	127	12,329
50-54	686	32,676	646	11,238
55-59	2,342	39,934	1,780	10,508
60-64	3,172	43,599	1,688	7,081
65-69	1,866	37,154	295	2,565
70-74	1,406	37,782	9	441
75-79	989	36,829	-	-
80-84	333	35,332	-	-
85-89	49	29,479	-	-
90-94	10	38,658	-	-
95-99	1	18,600	-	-
All Ages	10,994	39,110	4,613	8,814

Average age[2] at 31 March 2011: 64.9 years

Average age[2] at retirement: 50.9 years

Table 50 Male Former Regular Member Disability Pensioners
Number and Average Annual Pension[1] as at 31 March 2011

Age Last Birthday	Superannuation Account Number	Superannuation Account Average ($)	Pension Fund Number	Pension Fund Average ($)
To 39	2	10,086	12	7,603
40-44	20	13,253	20	11,590
45-49	100	19,958	100	10,019
50-54	243	27,492	214	9,164
55-59	386	31,203	273	8,320
60-64	354	32,692	195	5,768
65-69	126	28,655	26	2,977
70-74	41	32,130	-	-
75-79	21	29,903	-	-
80-84	8	23,639	-	-
85-89	3	23,836	-	-
90-94	1	18,216	-	-
All Ages	1,305	29,436	840	8,047

Average age at 31 March 2011: 58.7 years

Average age at retirement: 48.9 years

1 Equals initial amounts of pension plus all accrued indexation up to and including 1 January 2011, reduced by any CPP coordination and PBDA offsets in effect as at 31 March 2011. All pensions are in pay except for 8 Superannuation Account and 46 Pension Fund retirement pensions deferred to age 60. All accrued indexation is in pay except that in respect of retirement pensioners who have not yet satisfied at least one of the relevant criteria for receiving indexation payments.

2 Deferred annuitants are excluded for calculation of the average age.

Table 51 Female Former Regular Member Retirement Pensioners
Number and Average Annual Pension[1] as at 31 March 2011

Age Last Birthday	Superannuation Account		Pension Fund	
	Number	Average ($)	Number	Average ($)
To 39	6	3,763	20	8,373
40-44	11	11,202	11	9,883
45-49	45	22,207	44	12,691
50-54	101	28,743	88	10,368
55-59	117	34,179	90	10,498
60-64	29	37,629	19	10,162
65-69	10	28,660	8	4,709
70-74	-	-	-	-
75-79	2	11,778	-	-
All Ages	323	29,311	280	10,438

Average age[2] at 31 March 2011: 55.3 years

Average age[2] at retirement: 49.0 years

Table 52 Female Former Regular Member Disability Pensioners
Number and Average Annual Pension[1] as at 31 March 2011

Age Last Birthday	Superannuation Account		Pension Fund	
	Number	Average ($)	Number	Average ($)
To 39	4	5,724	8	9,765
40-44	22	13,010	22	10,119
45-49	47	18,444	43	9,781
50-54	60	23,980	41	10,680
55-59	35	26,857	22	8,697
60-64	20	24,176	9	6,803
65-69	6	17,764	1	5,112
70-74	-	-	-	-
75-79	1	7,416	-	-
All Ages	195	21,294	146	9,705

Average age at 31 March 2011: 52.2 years

Average age at retirement: 44.7 years

[1] Equals initial amounts of pension plus all accrued indexation up to and including 1 January 2011, reduced by any CPP coordination and PBDA offsets in effect as at 31 March 2011. All pensions are in pay except for 7 Superannuation Account and 20 Pension Fund retirement pensions deferred to age 60. All accrued indexation is in pay except that in respect of retirement pensioners who have not yet satisfied at least one of the relevant criteria for receiving indexation payments.

[2] Deferred annuitants are excluded for calculation of the average age.

Table 53 Male Former Civilian Member Retirement Pensioners
Number and Average Annual Pension[1] as at 31 March 2011

Age Last Birthday	Superannuation Account		Pension Fund	
	Number	Average ($)	Number	Average ($)
To 39	2	995	14	6,274
40-44	2	3,295	2	10,441
45-49	4	14,019	6	6,210
50-54	6	30,833	6	11,101
55-59	105	36,759	103	13,423
60-64	165	40,123	155	8,873
65-69	153	29,086	78	4,370
70-74	119	27,243	19	2,757
75-79	100	25,056	3	2,988
80-84	50	22,244	-	-
85-89	24	19,352	-	-
90-94	4	20,571	-	-
All Ages	734	30,771	386	8,738

Average age[2] at 31 March 2011: 68.9 years

Average age[2] at retirement: 57.9 years

Table 54 Male Former Civilian Member Disability Pensioners
Number and Average Annual Pension[1] as at 31 March 2011

Age Last Birthday	Superannuation Account		Pension Fund	
	Number	Average ($)	Number	Average ($)
To 39	1	4,200	1	11,196
40-44	1	8,760	1	2,736
45-49	9	11,947	6	4,890
50-54	6	19,564	6	12,802
55-59	18	27,744	13	7,726
60-64	20	30,187	9	4,693
65-69	15	23,163	-	7,203
70-74	10	16,656	-	-
75-79	6	13,904	-	-
80-84	4	12,480	-	-
All Ages	90	22,093	40	7,289

Average age at 31 March 2011: 62.3 years

Average age[2] at retirement: 51.4 years

[1] Equals initial amounts of pension plus all accrued indexation up to and including 1 January 2011, reduced by any CPP coordination and PBDA offsets in effect as at 31 March 2011. All pensions are in pay except for 2 Superannuation Account and 11 Pension Fund retirement pensions deferred to age 60.

[2] Deferred annuitants are excluded for calculation of the average age.

Table 55 Female Former Civilian Member Retirement Pensioners
Number and Average Annual Pension[1] as at 31 March 2011

Age Last Birthday	Superannuation Account		Pension Fund	
	Number	Average ($)	Number	Average ($)
To 39	4	2,662	23	7,513
40-44	9	5,796	12	8,477
45-49	7	13,203	10	10,263
50-54	20	15,551	23	8,499
55-59	91	30,031	92	11,288
60-64	110	30,511	101	7,894
65-69	54	19,421	42	4,465
70-74	56	21,137	17	3,651
75-79	32	17,823	1	6,228
80-84	19	21,930	-	-
85-89	18	18,393	-	-
90-94	1	14,772	-	-
95-99	1	15,432	-	-
All Ages	422	24,019	321	8,300

Average age[2] at 31 March 2011: 67.0 years

Average age[2] at retirement: 57.6 years

Table 56 Female Former Civilian Member Disability Pensioners
Number and Average Annual Pension[1] as at 31 March 2011

Age Last Birthday	Superannuation Account		Pension Fund	
	Number	Average ($)	Number	Average ($)
To 39	3	2,980	6	7,846
40-44	7	7,245	5	3,821
45-49	16	11,015	17	5,655
50-54	25	17,900	20	7,143
55-59	50	20,520	32	6,765
60-64	34	20,448	23	4,522
65-69	9	17,623	3	4,420
70-74	5	12,235	2	5,646
75-79	2	22,182	-	-
80-84	4	11,382	-	-
85-89	1	9,204	-	-
90-94	1	8,676	-	-
All Ages	157	17,402	108	6,021

Average age at 31 March 2011: 57.0 years

Average age at retirement: 47.7 years

1 Equals initial amounts of pension plus all accrued indexation up to and including 1 January 2011, reduced by any CPP coordination and PBDA offsets in effect as at 31 March 2011. All pensions are in pay except for 19 Superannuation Account and 44 Pension Fund retirement pensions deferred to age 60.

2 Deferred annuitants are excluded for calculation of the average age.

Table 57 Female Eligible Spouses
Number and Average Annual Pension[1] as at 31 March 2011

Age Last Birthday	Superannuation Account		Pension Fund	
	Number	Average ($)	Number	Average ($)
To 39	2	11,226	10	4,172
40-44	19	6,814	15	4,039
45-49	54	12,159	31	4,077
50-54	97	14,758	44	3,764
55-59	180	17,002	68	3,578
60-64	249	17,448	47	2,188
65-69	250	19,553	15	1,551
70-74	310	18,602	5	1,186
75-79	341	17,890	1	444
80-84	178	15,705	-	-
85-89	76	14,305	-	-
90-94	32	13,470	-	-
95-99	13	13,870	-	-
100-104	1	9,588	-	-
Widows	1,802	17,150	236	3,263

Average age at 31 March 2011: 69.7 years

Average age at death of contributor: 57.9 years

Table 58 Male Eligible Spouses and Children
Number and Average Annual Pension[1] as at 31 March 2011

Age Last Birthday	Superannuation Account		Pension Fund	
	Number	Average ($)	Number	Average ($)
To 39	-	-	1	984
40-44	1	7,080	1	2,436
45-49	1	7,908	-	-
50-54	4	6,855	2	1,860
55-59	4	12,411	2	2,052
60-64	12	11,289	5	2,318
65-69	4	16,080	2	5,610
70-74	3	18,256	1	2,844
75-79	2	10,704	-	-
80-84	4	9,852	-	-
85-89	2	6,696	-	-
Widowers	37	11,373	14	2,636
Children	127	1,999	98	576

Average age of widowers at 31 March 2011: 64.4 years

Average age of widowers at death of contributor: 52.6 years

[1] Equals initial amounts of annual allowance plus all indexation up to and including 1 January 2011.

Table 59 RCA Pensioners[1]
Number and Average Annual Pension[2] as at 31 March 2011

Age Last Birthday	Former Regular Members		Former Civilian Members	
	Number	Average ($)	Number	Average ($)
50-54	7	5,115	-	-
55-59	31	4,518	1	8,728
60-64	64	3,822	6	1,871
65-69	26	2,380	2	2,888
70-74	6	533	1	1,147
All Ages	134	3,624	10	2,688

1 All pensioners are male except 5 members. They are all non-disabled pensioners except one member. All pensions are in pay.
2 Equals initial amounts of pension plus all accrued indexation up to and including 1 January 2011.

Appendix 13 – Mortality Table for the Calculation of Instalments

For members who elect to buy back prior service, the following mortality rates are used to calculate the monthly instalments required. These mortality rates are combined mortality rates shown in this report for Regular and Civilian Members and were projected to plan year 2016. They are deemed to be the mortality rates applicable for plan years 2012 to 2016 inclusively. After 2016, they are projected in accordance with the assumed longevity improvement factors shown in this report (Table 36).

Table 60 Assumed Rates of Mortality for the Calculation of Instalments
For Plan Years 2012 to 2016 (per 1,000 individuals)

Age Last Birthday	Male	Female
30	0.5	0.3
40	0.9	0.6
50	1.9	1.0
60	4.7	3.1
70	14.4	9.6
80	50.8	28.6
90	145.2	93.2
100	280.0	230.0
110+	500.0	500.0

Appendix 14 – Acknowledgements

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Mathieu Désy, F.S.A., F.C.I.A.
Li Ya Ding, A.S.A.
Lyse Lacourse
Michel Millette, F.S.A., F.C.I.A.