

2004

ACTUARIAL REPORT

ON THE

REGULAR FORCE
DEATH BENEFIT ACCOUNT

AS AT 31 MARCH 2002



Office of the Superintendent of
Financial Institutions Canada

Office of the Chief Actuary

Bureau du surintendant des
institutions financières Canada

Bureau de l'actuaire en chef

Canada

To obtain a copy of this report, please contact:
Office of the Chief Actuary
Office of the Superintendent of Financial Institutions Canada
12th Floor, Kent Square Building
255 Albert Street
Ottawa, Ontario
K1A 0H2

Fax: (613) 990-9900
E-mail: oca-bac@osfi-bsif.gc.ca

An electronic version of this report is available
on our Web site, at www.osfi-bsif.gc.ca

20 February 2004

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

Dear Minister:

Pursuant to section 71 of the *Canadian Forces Superannuation Act*, I am pleased to submit the report on the actuarial review as at 31 March 2002 of the Regular Force Death Benefit Account established under Part II of this Act.

Yours sincerely,



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

TABLE OF CONTENTS

	<u>Page</u>
Executive Summary	7
A. Purpose of this Actuarial Report.....	7
B. Scope of the Report.....	7
C. Main Findings.....	7
Financial Position of the Plan.....	9
A. Balance Sheet as at 31 March 2002.....	9
B. Financial Position	9
C. Sensitivity of Valuation Results to Variations in Key Assumptions.....	9
Reconciliation of Results with Previous Report.....	11
Legislated Contribution Rates	12
A. Paid-Up Death Benefit.....	12
B. Death benefit.....	12
Actuarial Opinion	15

APPENDICES

Appendix 1 - Summary of Plan Provisions.....	16
Appendix 2 - Plan Assets	20
Appendix 3 - Participant Data.....	24
Appendix 4 - Methodology	29
Appendix 5 - Economic Assumptions.....	31
Appendix 6 - Demographic and Other Assumptions	32
Appendix 7 - Acknowledgements.....	42

TABLES

		<u>Page</u>
Table 1	Balance Sheet.....	9
Table 2	Reconciliation of Results.....	11
Table 3	Projected Monthly Cost.....	14
Table 4	Contribution per \$2,000 of Death Benefit.....	17
Table 5	Legislated Single Premium per \$5,000 of Basic Benefit.....	18
Table 6	Regular Force Death Benefit Account.....	20
Table 7	Account Projection.....	22
Table 8	Income and Expenditure Projection.....	23
Table 9	Non-Elective Officers as at 31 March 2002.....	25
Table 10	Non-Elective Other Ranks as at 31 March 2002.....	26
Table 11	Elective Disabled (3A) Participants as at 31 March 2002.....	27
Table 12	Elective Retired and Disabled (3B) Participants as at 31 March 2002.....	28
Table 13	Elective Participants Entitled to a Deferred Annuity as at 31 March 2002.....	28
Table 14	Summary of Economic Assumptions.....	31
Table 15	Assumed Seniority and Promotional Salary Increases.....	35
Table 16	Assumed Rates of Termination.....	36
Table 17	Assumed Proportions Continuing Coverage Upon Termination.....	37
Table 18	Assumed Rates of Retirement.....	38
Table 19	Assumed Rates of Termination due to Disability.....	39
Table 20	Assumed Mortality Rates For Plan Year 2003.....	40
Table 21	Assumed Longevity Improvement Factors.....	41

FIGURES

		<u>Page</u>
Figure 1	Ratio of Projected Actuarial Surplus at the End of the Plan Year to Annual Basic Benefit Payments Projected for the Following Plan Year.....	8
Figure 2	Projected Monthly Cost (Cents Per \$1,000 of Death benefit).....	13

Executive Summary

A. Purpose of this Actuarial Report

This actuarial report on the supplementary death benefit plan established under Part II of the *Canadian Forces Superannuation Act* (CFSA) was made as at 31 March 2002 pursuant to section 71 of the CFSA, which states that for valuation purposes the plan shall be treated as if it were a pension plan subject to the *Public Pensions Reporting Act* (PPRA). The previous review was made as at 31 March 2000. The scheduled date of the next periodic review pursuant to section 71 is 31 March 2005.

In accordance with accepted actuarial practice and with the PPRA to which section 71 refers, the main purpose of this actuarial report is to show realistic long-term projections of the assets, liabilities and financial position of the plan to assess the adequacy of the legislated contribution rates.

B. Scope of the Report

There were no modifications to the plan provisions since the previous report's date. This valuation report is based on the plan provisions shown in Appendix 1.

C. Main Findings

As at 31 March 2002, the plan had an actuarial surplus of \$117.8 million resulting from the difference between the assets of \$191.8 million and the liabilities of \$74.0 million.

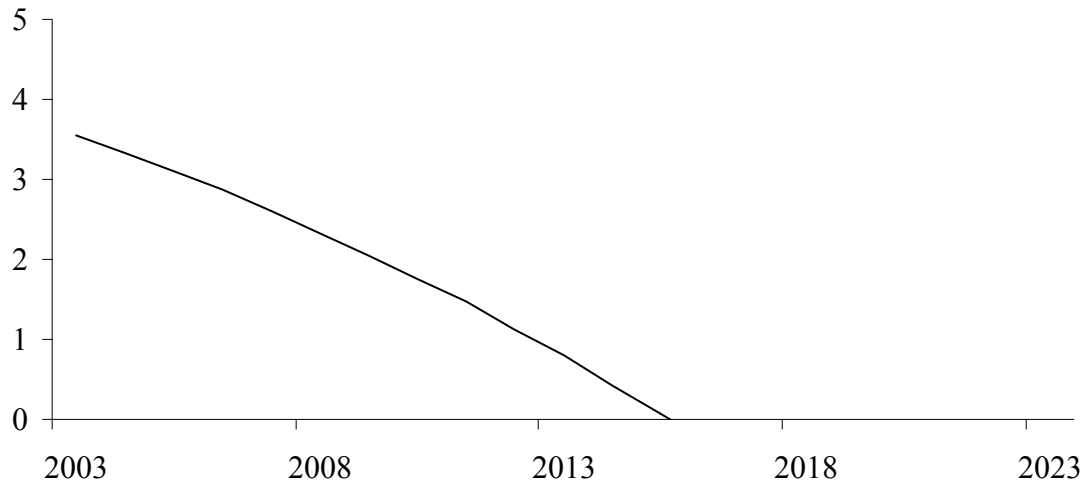
The current actuarial surplus of \$117.8 million in the Regular Force Death Benefit Account is projected to gradually vanish and become a deficit during plan year¹ 2016 because projected basic² benefits exceed for each plan year the sum of legislated contributions and projected investment earnings.

For the same reason, the current assets of \$191.8 million in the Regular Force Death Benefit Account are projected to become exhausted during plan year 2021.

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 term *basic benefit* (i.e. the basic coverage [two times salary] less the 10% per year reduction applicable from age 61 with a minimum of \$5,000) refers to the total benefit paid on the death of a participant under Part II- Supplementary Death Benefits of the *Canadian Forces Superannuation Act*.

Figure 1 Ratio of Projected Actuarial Surplus at the End of the Plan Year to Annual Basic Benefit Payments Projected for the Following Plan Year



The ratio of the projected actuarial surplus at the end of the plan year to the annual basic benefit payments projected for the following plan year shown in figure 1, is expected to decrease to zero by plan year 2016 due to the excess of the projected basic benefits over the combined projected contributions and investment earnings for all future plan years.

Financial Position of the Plan

A. Balance Sheet as at 31 March 2002

The following balance sheet was prepared using the assets described in Appendix 2, the data described in Appendix 3, the methodology described in Appendix 4, and the assumptions described in Appendices 5 and 6.

Table 1 Balance Sheet
(\$ millions)

Assets	191.8
Liabilities	
For paid-up ¹ death benefit on participants ages 65 and over	69.0
For incurred but unreported or pending claims	<u>4.8</u>
Total Liabilities	73.8
Actuarial surplus	<u>118.0</u>

B. Financial Position

At 31 March 2002 the actuarial surplus totalled \$117.8 million, being 3.8 times the total amount of basic benefits projected for plan year 2003. By comparison, the actuarial surplus as at 31 March 2001 under the previous report was \$114.0 million, which was 3.7 times the amount of basic benefits paid during plan year 2002.

As shown in Appendix 2 and explained in section 4 below, the projected contributions to the plan are less than the projected basic benefits for all future plan years. This projected annual shortfall is greater than the projected annual investment earnings on the Regular Force Death Benefit (RFDB) Account and accordingly entails a continuously decreasing actuarial surplus. The actuarial surplus is therefore projected to become an actuarial deficit during plan year 2016, while the RFDB Account is projected to become exhausted in plan year 2021.

C. Sensitivity of Valuation Results to Variations in Key Assumptions

The following supplementary estimates indicate the degree to which the valuation results depend on some of the key assumptions. These resulting differences can also serve as a basis for approximating the effect of other numerical variations in a key assumption, to the extent that such effects are indeed linear.

1. Projected Investment Yields

As a measure of sensitivity, an increment of one percentage point in the projected yields

¹ The term *paid-up death benefit* refers to the \$5,000 portion of the basic benefit for which monthly contributions are no longer required from either the participants or the government.

would change from 2021 to 2023 the plan year during which the RFDB Account is projected to become exhausted as well as change from 2016 to 2019 the plan year during which the actuarial surplus is projected to become exhausted.

On the opposite side, a decrease of one percentage point in the projected yields would change from 2021 to 2019 the plan year during which the RFDB Account is projected to become exhausted as well as change from 2016 to 2013 the plan year during which the actuarial surplus is projected to become exhausted.

2. Mortality

If the assumed improvements in longevity after the 2003 plan year were disregarded, then the monthly benefit cost rate¹ of 18.8 cents projected for 2027 would climb to 25.3 cents, an increase of 35%. The RFDB Account is projected to become exhausted by plan year 2017 instead of 2021.

However, if the assumed improvements in longevity after the 2003 plan year were kept at the level of plan year 2003, resulting in greater improvements in longevity than those assumed in table 21, then the monthly benefit cost rate of 18.8 cents projected for 2027 would decline to 15.4 cents, a decrease of 18%. The RFDB Account is projected to become exhausted by plan year 2023 instead of 2021.

¹ The expression *monthly benefit cost rate* is defined as the ratio of the total expected monthly *death benefit* payments over the total amount of expected monthly death benefit coverage, where coverage is expressed per thousand dollars. In this report, *death benefit* means the basic benefit less the \$5,000 paid-up death benefit applicable from age 65.

Reconciliation of Results with Previous Report

The following table indicates that the change in longevity improvement factors is the main reason for the decrease in the projected monthly benefit cost rate from 19.1 cents shown in the previous report to that of 18.8 cents of this report.

Table 2 Reconciliation of Results

Projections for Plan Year 2027	Monthly Cost per \$1,000 of Death Benefit (Cents)
As at 31 March 2000 (Projection for plan year 2025)	19.7
As at 31 March 2000 (Projection for plan year 2027)	19.1
Intervaluation economic experience and change in population	0.1
Change in economic assumptions	0.6
Change in assumed mortality rates for plan year 2003	0.1
Change in longevity improvement factors	(0.8)
Change in demographic assumptions other than mortality	(0.1)
Change in proportion of healthy pensioners opting for full coverage	(0.2)
As at 31 March 2002 (Projection for plan year 2027)	18.8

Legislated Contribution Rates

The aggregate amount of basic benefit payments projected for plan year 2003 is \$31.3 million, which is made up of \$25.1 million in respect of the death benefit and \$6.2 million in respect of the paid-up death benefit. In this report, *death benefit* means the basic benefit less the \$5,000 paid-up death benefit applicable from age 65.

A. Paid-Up Death Benefit

For plan year 2003, the estimated single premium at age 65 for each \$5,000 of paid-up death benefit is \$1,659 and \$1,451 for males and females, respectively. The corresponding legislated contribution rates for each \$5,000 of paid-up death benefit are \$310 and \$291, respectively. The legislated contributions are determined on the basis of the original \$500 of paid-up death benefit and were not readjusted when Bill C-55 increased the paid-up death benefit from \$500 to \$5,000.

The assumed improvements in longevity cause the projected single premium for the paid-up death benefit to decrease over time. However, the projected ultimate yield of 5.70% is lower than the yield of 8.43% projected for plan year 2003. This has the effect of gradually increasing the projected single premium over the years.

The net effect of longevity improvements and decreasing projected yields is to increase the projected single premiums at age 65 for each \$5,000 of paid-up death benefit. A male participant's projected single premium increases from \$1,659 for plan year 2003 to \$1,828 for plan year 2027; for a female participant the increase is from \$1,451 to \$1,611. The corresponding legislated contribution rates for each \$5,000 of paid-up death benefit are only \$310 and \$291, respectively.

B. Death benefit

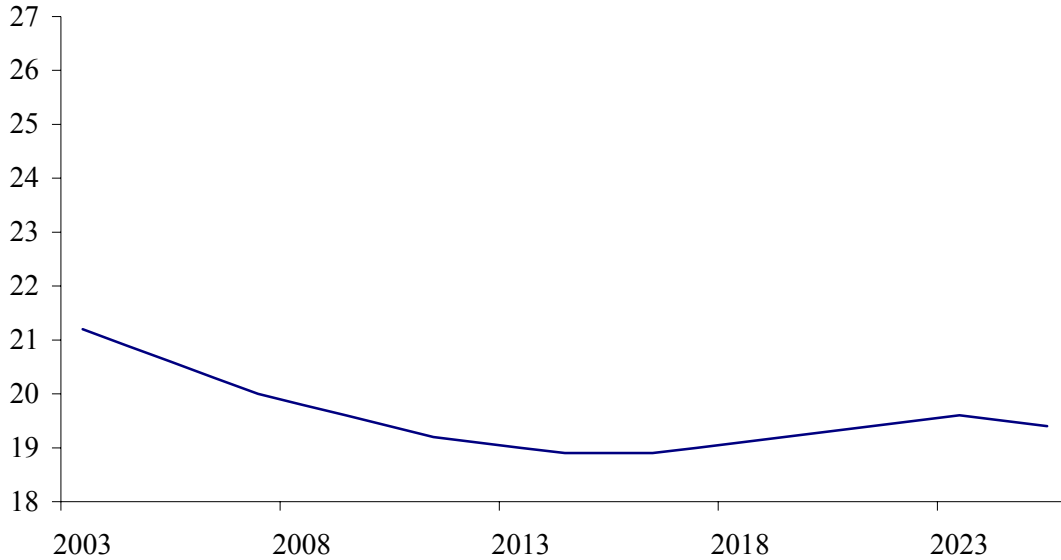
The total amount of death benefit payments projected to be payable during plan year 2003 is \$25.1 million. Given that the total amount of death benefit projected to be in force for plan year 2003 is \$9,884.7 million, the benefit cost rate projected for plan year 2003 is 21.2 cents per month per \$1,000 of death benefit.

Non-elective participants and elective participants in receipt of an immediate annuity are required to contribute monthly 20 cents per \$1,000 of salary or, 9.96¹ cents per \$1,000 of death benefit. As a minimum, the Government contributes monthly an amount equal to one-twelfth of the actual death benefit proceeds payable during the month. For plan year 2003, the Government's monthly contribution is estimated at 1.8 cents per \$1,000 of death benefit.

¹ If it were not for the rounding to the next lower multiple of \$250 of salary involved in the computation of contributions and the rounding to the next higher multiple of \$250 involved in the computation of the amount of death benefit, the legislated contribution rate would be \$0.10 (i.e. \$0.20 divided by two) instead of \$0.0996.

The total amount contributed by participants and the government is therefore 11.8 cents (9.96 cents plus 1.8 cents) per month per \$1,000 of death benefit, i.e. significantly less than the estimated monthly cost of 21.2 cents per \$1,000 of death benefit for plan year 2003.

Figure 2 Projected Monthly Cost (Cents Per \$1,000 of Death benefit)



As shown in figure 2, the monthly cost per \$1,000 of death benefit is projected to decrease from 21.2 cents to 18.9 cents in the first 15 years. Thereafter the monthly cost is projected to gradually approach 18.8 cents by plan year 2027. This 18.8 cents cost compares to the combined (Government and participants) legislated contribution rate of 11.5 cents (i.e. 9.96 cents for participants plus one-twelfth of 18.8 cents for Government) projected for plan year 2027.

The following table illustrates the projected monthly costs per \$1,000 of death benefit for selected plan year and participant type.

Table 3 Projected Monthly Cost
(Cents Per \$1,000 of Death Benefit)

Participants	2003	2010	2020	2025	2027
Non-elective	8.3	8.2	7.3	6.9	6.9
Elective	41.4	35.6	38.5	42.7	42.8
All	21.2	19.4	19.3	19.4	18.8

For non-elective participants, the monthly cost projected for plan year 2027 is 83% of the monthly cost estimated for plan year 2003. This results mainly from the following two factors:

- There is a reduction in cost due to the assumed lower mortality for plan year 2027 in accordance with the longevity improvement factors shown in table 21 applied to the current mortality rates shown in table 20.
- The distribution of non-elective participants in the plan year 2027 is weighted more heavily at the older ages than currently. This has the effect of increasing costs. However, this increase is more than offset by the effect of the assumed mortality improvements.

In respect of elective participants in receipt of an immediate annuity, the monthly cost projected for plan year 2027 is 103% of the monthly cost projected for plan year 2003. This increase is mostly the result of the distribution of elective participants weighted more heavily at the older ages than currently.

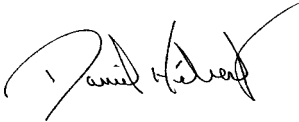
For all plan participants in aggregate, the monthly cost projected for plan year 2027 is 89% of the monthly cost projected for plan year 2003.

Actuarial Opinion

This report was prepared pursuant to the *Public Pensions Reporting Act* per section 71 of the *Canadian Forces Superannuation Act*. In our opinion,

- the valuation data on which it is based are sufficient and reliable;
- the assumptions that have been used are, in aggregate, appropriate;
- the methodology employed is appropriate; and
- the value of assets exceeds the wind-up liabilities at the valuation date.

This report has been prepared, and our opinions given, in accordance with accepted actuarial practice, and particularly with the Recommendations of the Canadian Institute of Actuaries for Actuarial Advice given with respect to Self-Insured Employee Benefit Plans.



Daniel Hébert
Principal Actuary
Public Sector Insurance and Pension Programs
Fellow of the Canadian Institute of Actuaries
Actuaries
Fellow of the Society of Actuaries



Jean-Claude Ménard
Chief Actuary
Office of the Chief Actuary
Fellow of the Canadian Institute of
Actuaries
Fellow of the Society of Actuaries

Ottawa, Canada
20 February 2004

APPENDICES

Appendix 1 -Summary of Plan Provisions

Following is a summary description of the main provisions of the RFDB plan established for the members of the regular force under Part II - *Supplementary Death Benefits* of the *Canadian Forces Superannuation Act* (CFSA). This plan supplements the pension plan by providing a lump sum benefit upon the death of a plan participant.

A. Plan Participants

1. Non-Elective Participants

Non-elective participant means a member of the regular force, or a member of the reserve force who is, with the approval of the Chief of the Defence Staff, on full-time service in a position in a regular force establishment or as a supernumerary to a regular force establishment.

2. Elective Participants

Elective participant means all previously non-elective participants who have ceased to be employed in the Canadian Forces by reason of disability or retirement (i.e. when they become entitled to an immediate retirement or disability annuity) and elected to continue their basic benefit coverage under the RFDB plan. Such right is limited to members who, at the time they cease to be employed in the Canadian Forces, had completed at least five years of continuous service in the Canadian Forces or five years of membership in the RFDB plan.

Elective participants entitled to a deferred annuity under the CFSA upon cessation of employment may elect to continue their basic benefit coverage under the RFDB plan; otherwise their membership and coverage is discontinued. This election must be made within the 13-month period running from one year before to the 30th day following cessation of employment. The basic benefit is extended for 30 days after the date of cessation whether or not a participant exercises the right of election for continuous coverage.

An elective participant who becomes a participant in the Public Service Death Benefit (PSDB) plan automatically ceases to be a participant in the RFDB. Any such person, who subsequently ceases to be a participant in the PSDB plan, without entitlement to an immediate annuity under the *Public Service Superannuation Act*, is deemed thereupon to regain the status of elective participant in the RFDB.

B. Assets

The plan is financed through the RFDB Account, which forms part of the Accounts of Canada. The RFDB Account is credited with all contributions made by the participants and the Government, and charged with all benefit payments as they become due. The RFDB Account is also credited with investment earnings based on interest rates applying to the Canadian Forces Superannuation Account.

C. Contributions

1. Non-Elective Participants, and Elective Participants in Receipt of an Immediate Annuity

For non-elective participants as well as elective participants in receipt of an immediate annuity (disability or retirement) under Part I of the CFSA or the *Defence Services Pension Continuation Act*, the legislated contribution rate is 5 cents per month for each \$250 of salary (for this purpose the salary is in practice rounded to the next lower multiple of \$250 if not already equal to such a multiple). When these participants attain age 65, their contribution is reduced by 50 cents per month in recognition of the fact that \$5,000 of basic benefit becomes paid-up for the remaining lifetime of the participant.

2. Elective Participants Entitled to a Deferred Annuity

For elective participants entitled to a deferred annuity, the legislated contribution rate varies in accordance with the attained age of the participant, and the corresponding contributions become chargeable on the 30th day immediately following cessation of employment. The legislated rates for selected ages are shown in the following table:

Table 4 Contribution per \$2,000 of Death Benefit

<u>Age Last Birthday</u>	<u>Annual</u>	<u>Monthly</u>
25	\$9.70	\$0.82
30	11.42	0.97
35	13.58	1.15
40	16.29	1.39
45	19.72	1.67
50	24.11	2.05
55	29.80	2.53
60	37.65	3.20

3. Government

The Government credits monthly to the RFDB Account an amount equal to one-twelfth of the total amount of death benefits paid in the month.

When a participant, other than one entitled to a deferred annuity, reaches age 65, the Government credits to the RFDB Account a single premium for the individual \$5,000 paid-up portion of basic benefit in respect of which contributions are no longer required from the participant.

The legislated amount of single premium for each such \$5,000 paid-up portion of basic benefit is shown in the following table and corresponds to one-tenth of \$5,000 times the single premium rate for each dollar of death benefit, computed on the basis of the Life Tables, Canada, 1950-1952 and interest at 4% per annum.

Table 5 Legislated Single Premium per \$5,000 of Basic Benefit

<u>Age Last Birthday</u>	<u>Male</u>	<u>Female</u>
65	\$310	\$291
66	316	298
67	323	306
68	329	313
69	336	320

Under the statutes, if for whatever reason the RFDB Account were to become exhausted, the Government would then have to make special contributions to the RFDB Account in an amount at least equal to the basic benefits then due but not paid by reason of such cash shortfall.

D. Amount of Basic Benefit

Subject to the applicable reductions described below, the lump sum benefit payable upon the death of a participant is equal to twice the participant's current salary, the result being rounded to the next higher multiple of \$250 if not already equal to such a multiple. For this purpose, the current salary of an elective participant is defined as the annual rate of pay at the time of cessation of employment in the Canadian Forces.

The amount of basic benefit described above is reduced by 10% a year starting at age 61 until it would normally vanish at age 70. However, the amount of basic benefit cannot at any time be reduced below a basic floor value of \$5,000 subject to the following exceptions:

- For those elective participants who had, upon cessation of employment prior to the enactment of Bill C-55, made an election to reduce their basic benefit to \$500 and further had made a second election, within one year following the introduction of Bill C-55, to keep their basic benefit at \$500, the floor value is \$500 instead of \$5,000. Such election is irrevocable.
- For elective participants entitled to a deferred annuity there is no coverage past age 70.

Upon ceasing to be employed in the Canadian Forces, elective participants in receipt of an immediate annuity under Part I of the CFSA or the *Defence Services Pension Continuation Act* may opt to reduce their amount of basic benefit to \$5,000.

Appendix 2 - Plan Assets

A. Regular Force Death Benefit Account

The plan is entirely financed through the RFDB Account, which forms part of the Accounts of Canada. The RFDB Account is:

- credited with all contributions made by participants and the Government;
- credited with investment earnings every three months on the basis of the actual average yield for the same period on the combined Superannuation Accounts of the Public Service, Canadian Forces and Royal Canadian Mounted Police pension plans. These accounts generate investment 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;
- charged with basic benefit payments when they become due.

Table 6 shows the reconciliation of assets in the RFDB Account from the last valuation date to the current valuation date. Since the last valuation, the Account balance has grown by \$5.6 million (i.e. a 3% increase) to reach \$191.8 million as at 31 March 2002. The net growth in the Account balance is the result of actual death benefit payments being less than the death benefit payments projected in the previous actuarial report.

Table 6 Regular Force Death Benefit Account
(\$ millions)

Plan year	2000	2001	2002	2001-2002
Account Balance as at 31 March 2000				179.3
Accounts of Canada opening balance	179.3	182.1	186.2	179.3
INCOME				
Employee contributions	11.0	11.1	11.8	33.9
Employer contributions				
- Death benefit	1.8	1.7	1.6	5.1
- Paid-up death benefit	0.6	0.6	0.7	1.9
Investment earnings	<u>16.3</u>	<u>16.0</u>	<u>16.0</u>	<u>48.3</u>
Subtotal	29.7	29.4	30.1	89.2
EXPENDITURES				
Basic Benefit claims				
- Death benefit	21.2	20.3	18.4	59.9
- Paid-up death benefit	<u>5.7</u>	<u>5.1</u>	<u>6.1</u>	<u>16.9</u>
Subtotal	26.9	25.4	24.5	76.8
Accounts of Canada closing balance	182.1	186.2	191.8	191.8
Account Balance as at 31 March 2002				191.8

B. Rates of Return

The following rates of return on the RFDB Account by plan year were calculated using the foregoing entries.

Plan Year	Return
2000	9.42 %
2001	9.09 %
2002	8.84 %

C. Sources of Asset Data

The Account entries shown previously were taken from the Accounts of Canada. In accordance with section 8 of the *Public Pensions Reporting Act*, the Office of the Comptroller General of Canada provided a certification of the assets of the plan as at 31 March 2002.

D. Account Projection

The following table shows a projection of the RFDB Account over 25 years commencing 1 April 2002.

Table 7 Account Projection
(\$ millions)

Plan Year	Balance Sheet at the End of Plan Year			Ratio of Projected Actuarial Surplus at the End of the Plan Year to Annual Basic Benefit Payments Projected for the Following Plan Year
	Account	Liabilities	Surplus / Deficit	
2002	191.8¹	73.8	118.0	3.8
2003	193.1	77.1	116.0	3.6
2004	191.3	80.3	111.0	3.4
2005	188.8	83.2	105.6	3.2
2006	185.4	86.0	99.4	3.0
2007	181.2	88.6	92.6	2.7
2008	176.2	91.3	84.9	2.5
2009	170.3	93.6	76.6	2.2
2010	163.3	95.3	68.0	1.9
2011	155.2	96.5	58.8	1.6
2012	146.0	98.3	47.7	1.3
2013	135.5	99.9	35.6	0.9
2014	123.8	101.2	22.6	0.6
2015	110.8	102.1	8.7	0.2
2016	96.1	102.2	(6.1)	-
2017	80.0	102.4	(22.5)	-
2018	62.3	102.5	(40.2)	-
2019	43.0	102.7	(59.7)	-
2020	22.0	103.4	(81.4)	-
2021	0.0	104.5	(104.5)	-
2022	0.0	106.0	(106.0)	-
2023	0.0	108.3	(108.3)	-
2024	0.0	110.6	(110.6)	-
2025	0.0	113.3	(113.3)	-
2026	0.0	116.3	(116.3)	-
2027	0.0	120.0	(120.0)	-

¹ Bold figures denote actual experience.

E. Income and Expenditure Projection

The following table shows a projection of the income and expenditure which served as the basis of the projection of the RFDB Account over 25 years commencing with plan year 2003.

Table 8 Income and Expenditure Projection
(\$ millions)

Plan Year	Contributions			Basic Benefit Payments			Investment Earnings	Net Cash Flow	
	Participants	Death	Paid-Up	Total	Death	Paid-Up			Total
2003	12.5¹	2.0	0.6	15.7	23.4	6.2	29.6	15.7	1.3
2004	12.2	2.1	0.6	14.9	25.5	6.5	32.0	15.3	(1.7)
2005	12.5	2.1	0.6	15.2	25.7	6.7	32.5	14.7	(2.5)
2006	12.8	2.2	0.6	15.5	26.0	6.9	33.0	14.1	(3.4)
2007	13.1	2.2	0.6	15.9	26.4	7.1	33.5	13.4	(4.2)
2008	13.5	2.2	0.6	16.3	26.8	7.3	34.1	12.8	(5.0)
2009	13.8	2.3	0.6	16.7	27.2	7.5	34.7	12.0	(6.0)
2010	14.2	2.3	0.5	17.0	27.7	7.6	35.3	11.3	(7.0)
2011	14.7	2.4	0.5	17.5	28.3	7.7	36.0	10.5	(8.0)
2012	15.1	2.4	0.6	18.1	28.9	7.8	36.8	9.4	(9.3)
2013	15.6	2.5	0.6	18.7	29.6	8.0	37.6	8.5	(10.4)
2014	16.1	2.5	0.6	19.2	30.5	8.1	38.5	7.7	(11.7)
2015	16.6	2.6	0.5	19.7	31.4	8.2	39.6	6.8	(13.1)
2016	17.1	2.7	0.5	20.2	32.4	8.2	40.7	5.8	(14.7)
2017	17.6	2.8	0.5	20.9	33.5	8.3	41.8	4.8	(16.1)
2018	18.2	2.9	0.5	21.5	34.7	8.3	43.0	3.8	(17.7)
2019	18.7	3.0	0.5	22.2	35.9	8.4	44.3	2.8	(19.3)
2020	19.2	3.1	0.6	22.9	37.2	8.4	45.7	1.7	(21.0)
2021	19.8	4.0	0.7	24.5	38.6	8.5	47.0	0.6	(22.0)
2022	20.3	27.2	0.8	48.3	39.8	8.5	48.3	-	-
2023	20.8	27.8	0.9	49.5	40.9	8.6	49.5	-	-
2024	21.4	28.3	0.9	50.5	41.8	8.7	50.5	-	-
2025	21.9	28.4	0.9	51.3	42.5	8.8	51.3	-	-
2026	22.4	28.5	1.0	51.9	43.0	8.9	51.9	-	-
2027	22.9	28.1	1.1	52.1	43.2	9.0	52.2	-	-

¹ Bold figures denote actual experience.

Appendix 3 - Participant Data

A. Source of Participant Data

The Department of National Defence provided the valuation data required in respect of all participants as at 31 March 2002. The Superannuation Directorate of the Department of Public Works and Government Services Canada maintains master computer files for elective participants.

The main valuation data file supplied by the Superannuation Directorate contained all the status information of elective participants during the period from 1 April 2000 to 31 March 2002. The results of this valuation were based on the elective participants data as at 31 March 2002.

B. Participant Data Summary

Tables 9 to 13 on the following pages show the detailed participant data upon which this valuation is based.

Table 9 Non-Elective Officers as at 31 March 2002

<u>Age¹</u>	<u>Number</u>			<u>Basic Benefits (\$ thousand)</u>		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
15-19	322	112	434	9,274	3,193	12,467
20-24	966	331	1,297	51,627	17,245	68,872
25-29	1,463	371	1,834	154,751	41,134	195,885
30-34	1,687	291	1,978	223,642	37,081	260,723
35-39	2,445	322	2,767	364,074	47,206	411,280
40-44	2,239	228	2,467	362,191	36,391	398,582
45-49	1,411	114	1,525	245,660	18,342	264,002
50-54	893	61	954	161,115	10,157	171,272
55-59	81	7	88	14,620	1,429	16,049
60-64	<u>1</u>	<u>0</u>	<u>1</u>	<u>333</u>	<u>0</u>	<u>333</u>
Total	11,508	1,837	13,345	1,587,287	212,178	1,799,465

<u>Average</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
Age ¹	36.7	32.1	36.1
Service ¹	15.3	10.3	14.7
Basic Benefit (\$)	137,929	115,502	134,842

¹ Expressed in completed years calculated at the beginning of the plan year.

Table 10 Non-Elective Other Ranks as at 31 March 2002

<u>Age¹</u>	<u>Number</u>			<u>Basic Benefits (\$ thousand)</u>		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
15-19	926	82	1,008	48,629	4,340	52,969
20-24	4,482	519	5,001	300,591	34,897	335,488
25-29	5,422	650	6,072	449,154	51,365	500,519
30-34	8,216	1,189	9,405	754,354	104,160	858,514
35-39	10,880	1,531	12,411	1,053,278	140,462	1,193,740
40-44	7,252	917	8,169	743,578	88,759	832,337
45-49	2,585	290	2,875	288,336	30,127	318,463
50-54	1,013	42	1,055	120,507	4,493	125,000
55-59	<u>40</u>	<u>2</u>	<u>42</u>	<u>4,824</u>	<u>217</u>	<u>5,041</u>
Total	40,816	5,222	46,038	3,763,251	458,820	4,222,071

<u>Average</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
Age ¹	34.5	34.4	34.5
Service ¹	13.4	11.5	13.1
Basic Benefit (\$)	92,200	87,863	91,708

¹ Expressed in completed years calculated at the beginning of the plan year.

Table 11 Elective Disabled (3A) Participants as at 31 March 2002

<u>Age</u> ¹	<u>Number</u>			<u>Basic Benefits (\$ thousand)</u>		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
25-29	0	1	1	0	87	87
30-34	6	4	10	504	356	860
35-39	35	11	46	3,047	929	3,976
40-44	60	25	85	5,027	2,049	7,076
45-49	46	15	61	3,763	1,245	5,008
50-54	72	12	84	4,191	1,018	5,209
55-59	212	5	217	7,465	465	7,930
60-64	415	1	416	8,762	30	8,792
65-69	627	1	628	4,198	5	4,203
70-74	675	4	679	3,371	20	3,391
75-79	407	3	410	2,035	15	2,050
80-84	203	1	204	1,015	5	1,020
85-89	50	1	51	250	5	255
90-94	<u>3</u>	<u>0</u>	<u>3</u>	<u>15</u>	<u>0</u>	<u>15</u>
Total	2,811	84	2,895	43,643	6,229	49,872

<u>Average</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
Age ¹	67.9	48.0	67.3
Basic Benefit (\$)	15,525	74,144	17,226

¹ Expressed in completed years calculated at the beginning of the plan year.

Table 12 Elective Retired and Disabled (3B) Participants as at 31 March 2002

<u>Age¹</u>	<u>Number</u>			<u>Basic Benefits (\$ thousand)</u>		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
25-29	12	2	14	1,070	186	1,256
30-34	206	57	263	18,104	5,142	23,246
35-39	1,804	369	2,173	161,200	31,512	192,712
40-44	5,873	978	6,851	543,477	83,558	627,035
45-49	5,890	726	6,616	545,483	63,744	609,227
50-54	6,993	392	7,385	652,889	36,170	689,059
55-59	9,059	157	9,216	839,563	15,612	855,175
60-64	9,667	109	9,776	586,037	7,234	593,271
65-69	9,393	73	9,466	169,815	1,818	171,633
70-74	6,893	54	6,947	34,456	270	34,726
75-79	4,777	30	4,807	23,885	150	24,035
80-84	3,312	31	3,343	16,560	155	16,715
85-89	1,355	30	1,385	6,775	150	6,925
90-94	184	6	190	920	30	950
95-99	<u>15</u>	<u>2</u>	<u>17</u>	<u>75</u>	<u>10</u>	<u>85</u>
Total	65,433	3,016	68,449	3,600,309	245,741	3,846,050

<u>Average</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
Age ¹	60.8	47.7	60.2
Basic Benefit (\$)	55,023	81,479	56,189

Table 13 Elective Participants Entitled to a Deferred Annuity² as at 31 March 2002

<u>Number</u>	<u>Basic benefits (\$ thousand)</u>
11	880

¹ Expressed in completed years calculated at the beginning of the plan year.

² Due to their negligible effect on costs and liabilities, these participants were not taken into consideration for the purpose of this valuation.

Appendix 4 - Methodology

A. Assets

The assets of the plan consist essentially of the recorded balance in the RFDB Account, which forms part of the Accounts of Canada. These assets are shown at the book value of the underlying notional bond portfolio described in Appendix 2.

The Account balance corresponds to the excess of past contributions and investment earnings over past basic benefit payments. Assets are accordingly projected to the end of a given plan year by adding to the Account at the beginning of that plan year the net income (i.e. the excess of contributions and investment earnings over benefits) projected as described below for that plan year. Administration expenses are ignored because they are not charged to the Account.

B. Contributions

Participants' annual contributions are projected for a given plan year by multiplying

- the legislated annual contribution rate of 60 cents per \$250 of salary (equivalent to the monthly rate of 5 cents per \$250 of salary) by
- the projected participants' rounded salaries for that plan year on an open-group basis, reduced by 10% a year from age 61 if applicable, (the legislation expresses the annual reduction of 10% a year on the total amount of coverage)

less

- \$6.00 annually corresponding to the \$5,000 paid-up coverage after age 65, if applicable (i.e. death benefit coverage of \$5,000 corresponds to an annual salary of \$2,500, hence an annual contribution of 60 cents per \$250 of salary would produce a reduction of \$6.00 annually).

Non-elective participants' salaries are projected for a given plan year using the assumed rates of increase described in Appendix 5 below. Elective participants' salaries are frozen at time of retirement or disability and are not subject to further increases.

The Government's annual contribution is projected for a given plan year as the sum of

- one-twelfth of the amount of death benefits projected to be paid during that plan year, and
- the legislated single premiums in respect of relevant participants 65 years of age.

C. Investment Earnings

Annual investment earnings are projected for a given plan year as the product of the yield projected for that plan year (Appendix 5) and the projected average RFDB Account balance in that plan year.

D. Basic Benefit Payments

The total amount of basic benefit payments for a given plan year is projected as the total amount of basic benefit in force during that plan year multiplied by the mortality rates assumed to apply during that plan year. The amount of basic benefit in force depends on the salary projected to time of death. Elective participants' salaries are frozen at time of retirement or disability and are not subject to further increases. Salaries are projected for this purpose using the assumed rates of increase in salaries and the number of participants projected on an open-group basis as described in Appendix 6 below.

E. Liabilities

1. Paid-up Reserve

At the end of a given plan year, the liabilities associated with the individual \$5,000 paid-up death benefit in force correspond to the amount which, together with interest at the projected yields, is sufficient to pay for each individual \$5,000 paid-up death benefit projected payable on the basis of the assumed mortality rates.

2. IBNR and Pending Claims Reserves

On the basis of the plan's experience, the reserve at the end of a given plan year for claims incurred but not reported (IBNR), and for pending claims is set equal to one-sixth of the projected annual death benefits paid on average during the six previous plan years.

3. Extension of Coverage

Due to the negligible effect of the 30-day extension of the basic benefit upon termination of coverage and to the nature of basic benefit paid for on a monthly basis, no liability is deemed to exist in respect of that basic benefit provision.

Appendix 5 - Economic Assumptions

The following economic assumptions are required for valuation purposes:

A. Increases in Average Earnings

The assumed increase in non-elective participants' annual salary would normally, for any year, be the same as the assumed increase in the Industrial Aggregate of Average Weekly Earnings.

B. Projected Yields on Account

These yields are required for the estimates of the long-term projection of the assets, liabilities and actuarial surplus or deficit. The methodology used to determine the projected yields on the Account is described in Appendix 4.

Table 14 Summary of Economic Assumptions
(percentage)

Plan Year	Average Salary Increase ¹ of Non-Elective Participants		Plan Year	Average Salary Increase ¹ of Non-Elective Participants	
	Projected Yield	Projected Yield		Projected Yield	Projected Yield
2003	4.25²	8.43	2019	3.60	5.50
2004	2.50	8.30	2020	3.60	5.50
2005	2.30	8.06	2021	3.60	5.47
2006	2.40	7.81	2022	3.60	5.46
2007	2.50	7.60	2023	3.60	5.45
2008	2.60	7.42	2024	3.60	5.44
2009	2.80	7.21	2025	3.60	5.47
2010	3.00	7.01	2026	3.60	5.50
2011	3.10	6.81	2027	3.60	5.54
2012	3.20	6.42	2028	3.60	5.57
2013	3.30	6.23	2029	3.60	5.60
2014	3.40	6.09	2030	3.60	5.63
2015	3.50	5.96	2031	3.60	5.65
2016	3.60	5.76	2032	3.60	5.68
2017	3.60	5.62	2033	3.60	5.70
2018	3.60	5.52	2034+	3.60	5.70

¹ Exclusive of seniority and promotional increases.

² Officers received an increase of 4.5% and Other Ranks an increase of 4.0%.

Appendix 6 -Demographic and Other Assumptions

Except where otherwise noted, all demographic assumptions were determined from the plan's own experience as was done in the past. Where applicable, assumptions of the previous valuation were updated to reflect the available intervaluation experience of April 1999 to March 2002. Described below are the assumptions related to causes of termination (employment or participation):

Termination Cause	Rate Basis	Comments	
Terminations (withdrawals or retirement), Other than for Disability, with less than 20 Years of Service	Service, Rank, Sex	Giving partial credibility to the experience data of the 2000-2002 plan years, the rates were modified from the previous valuation as follows:	
		Male Officers	- 12% decrease
		Male Other Ranks	- 12% decrease
		Female Officers	- 15% decrease
		Female Other Ranks	- 18% decrease
Pensionable termination with 20 or more years of service	Service, Rank	Giving partial credibility to the experience data of the 2000-2002 plan years, the rates were modified from the previous valuation as follows:	
		Officers	- 8% decrease
		Other Ranks	- 3% increase
Disability	Occupation Age, Rank, Sex	Rates for disability releases 3A (any occupation) were not modified.	
		Disability releases 3B (own occupation). Giving partial credibility to the experience data of the 2000-2002 plan years, the rates were modified from the previous valuation as follows:	
		Male Officers	- 47% increase
		Male Other Ranks	- 26% increase
		Female	- 17% increase
Mortality	Age, Rank, Sex, Year	Giving partial credibility to the experience data of the 2000-2002 plan years, the rates were not modified from the previous valuation	
		The mortality improvement assumption was based on a 25-year select period with an ultimate mortality improvement of 0.5% at all ages. The first-year improvement factors (i.e. for year 2000) were revised to reflect the mortality improvement of the 1995-97 Life Table for Canada relative to the 1985-87 Table. The intermediate factors were obtained by linear interpolation between the first-year and ultimate factors.	

Description	Basis	Comments
Elective retired participants		
Mortality	Age, Rank, Sex, Year	Giving partial credibility to the experience data of the 2000-2002 plan years, the rates were modified from the previous valuation. The mortality rates were marginally reduced for ages 60 and above. Table 20
		Longevity improvements as non-elective mortality. Table 21
Proportion of elective participants with 10 to 19 years of service electing an immediate annuity	Service, Rank	Giving partial credibility to the experience data of the 2000-2002 plan years, the overall proportions of members stayed the same as in the previous valuation but the proportions starts with a higher value at duration 10 followed by larger decreases through duration 19. Table 17
Elective disabled participant		
Disabled life mortality (3A release)	Age, Rank, Sex, Year	On the basis of the experience data of the 2000-2002 plan years, the mortality rates were unchanged from the previous report. Table 20
		Longevity improvements as non-elective mortality Table 21
Disabled life mortality (3B release)	Age, Rank, Sex, Year	These members have been released under cause 3B, and are unable to perform the duties of their own occupations. The mortality assumption for these pensioners is set equal to the mortality assumption of healthy pensioners. Table 20
		Longevity improvements as non-elective mortality Table 21

A. Other Assumptions

1. Option to Reduce Coverage to \$5,000

The valuation data indicates that the proportion of elective participants opting to reduce their death benefit to \$5,000 is negligible. Accordingly, no elective participants were assumed to make such an option.

2. Electing Participants Opting to Continue Coverage After Employment Termination

The valuation data indicates that the proportion of elective participants, in receipt of an immediate annuity, electing not to continue their coverage under the RFDB is negligible.

There is a small proportion of new elective members who become participants in the Public Service Death Benefit (PSDB) plan and consequently their RFDB coverage is automatically suspended. In the previous valuation, a certain percentage of participants had suspended coverage and accordingly, were not included in the valuation. However, it was assumed that 100% of projected future elective participants opted to continue their full coverage under the RFDB plan because it was assumed that the coverage of elective

participants becoming suspended following their participation under the PSDB plan would not remain suspended as these participants would eventually cease to be covered by the PSDB, and regain the status of elective participants in the RFDB plan.

A further study of the RFDB elective participants has shown that around 3% of the healthy pensioners, aged 60 and above, have suspended coverage. These participants, having retired earlier from the Canadian Forces, are also assumed to have retired from the Public Service and have opted for the full coverage under the PSDB plan instead of regaining the coverage under the RFDB plan. Consequently, this valuation assumes that 97% of new retirees opt to continue their full coverage under the RFDB plan.

3. Seniority and Promotional Salary Increases

Based on the experience for plan years 2000 to 2002, the rates of both Officers and Other Ranks were revised. The assumed rates for Officers were increased by approximately 1% while the Other Ranks were reduced by approximately 14%. The assumptions for seniority and promotional increases, broken down by years of service, are shown in table 15.

4. New Participants

It was assumed that the distribution of new members by age, sex and initial salary rate would be the same as that of members with less than one year of service at the valuation date. The number of new entrants was assumed to be equal to the year's number of terminations.

5. Administrative Expenses

In the projection of the Account, no assumption was made regarding the expenses incurred for the administration of the plan. These expenses, which are not charged to the RFDB Account, are borne by the Government and are commingled with all other government expenses.

Table 15 Assumed Seniority and Promotional Salary Increases
(percentage)

<u>Service¹</u>	<u>Officers</u>	<u>Other Ranks</u>	<u>Service¹</u>	<u>Officers</u>	<u>Other Ranks</u>
0	5.4	17.4	20	1.3	0.8
1	7.0	17.3	21	1.4	0.9
2	12.6	11.0	22	1.1	0.9
3	44.5	10.1	23	1.1	0.9
4	24.2	5.0	24	0.9	0.9
5	10.5	3.7	25	0.9	0.9
6	9.5	2.7	26	0.7	0.9
7	7.1	2.3	27	0.7	0.6
8	4.9	2.0	28	0.7	0.9
9	4.2	1.3	29	0.4	0.7
10	3.7	0.9	30	0.4	0.7
11	3.3	0.9	31	0.5	0.3
12	3.1	0.8	32	0.3	0.3
13	2.7	0.7	33	0.4	0.3
14	2.4	0.7	34	0.6	0.2
15	2.2	0.9	35	0.8	0.2
16	1.9	0.9	36	0.7	0.2
17	1.7	1.1	37	0.5	0.0
18	1.6	0.8	38	0.3	0.0
19	1.5	0.8	39	0.0	0.0

¹ Expressed in completed years calculated at the beginning of the plan year.

Table 16 Assumed Rates of Termination
Non-Elective Participants With Less Than 19 Years of Service
(per 1,000 individuals)

<u>Service</u> ¹	<u>Officers</u>		<u>Other Ranks</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
0	51	79	43	48
1	47	56	38	46
2	46	54	123	107
3	38	43	62	68
4	27	42	47	62
5	28	49	45	72
6	30	56	55	68
7	34	64	39	56
8	78	88	33	45
9	66	72	31	43
10	47	65	30	39
11	45	67	25	34
12	39	54	23	36
13	28	40	16	22
14	19	30	13	20
15	15	25	11	18
16	14	19	9	13
17	9	17	8	11
18	9	16	7	11

¹ Expressed in completed years calculated at the beginning of the plan year.

Table 17 Assumed Proportions Continuing Coverage Upon Termination
Non-Elective Participants With 10 to 19 Years of Service
(per 1,000 individuals)

<u>Service</u> ¹	<u>Officers</u>	<u>Other Ranks</u>
9	35	22
10	50	25
11	60	61
12	74	65
13	119	69
14	165	96
15	235	180
16	236	216
17	332	314
18	506	389
19	1,000	1,000

¹ Expressed in completed years calculated at the beginning of the plan year.

Table 18 Assumed Rates of Retirement
Non-Elective Participants With 19 or More Years of Service
(per 1,000 individuals)

<u>Service</u> ¹	<u>Officers</u>	<u>Other Ranks</u>
19	99	103
20	83	110
21	59	83
22	57	74
23	49	94
24	41	117
25	43	105
26	68	104
27	80	107
28	91	116
29	87	141
30	85	148
31	106	159
32	129	184
33	165	204
34	283	339
35	375	445
36	459	492
37	446	676
38	453	614

¹ Expressed in completed years calculated at the beginning of the plan year.

Table 19 Assumed Rates of Termination due to Disability
(per 1,000 individuals)

<u>Age¹</u>	<u>Any Occupation (3A)</u>		<u>Own Occupation (3B)</u>		
	<u>Male</u>	<u>Female</u>	<u>Male Officers</u>	<u>Male Other Ranks</u>	<u>Female</u>
20	0.4	0.4	3.2	3.0	5.1
25	0.2	0.7	3.3	4.1	6.1
30	0.2	1.3	1.4	7.1	8.2
35	0.4	1.7	2.0	10.9	13.1
40	0.6	2.5	2.6	12.8	17.2
45	0.4	3.6	3.8	14.2	18.5
50	1.1	5.0	7.9	17.5	19.5
55	2.6	6.8	13.2	20.5	18.7
59	4.2	8.2	16.3	23.0	18.5

¹ Expressed in completed years calculated at the beginning of the plan year.

Table 20 Assumed Mortality Rates For Plan Year 2003
(per 1,000 individuals)

Age ¹	Elective and Non-Elective Participants			Elective Disabled (3A) Participants		
	Male		Female	Male		Female
	Officers	Other Ranks		Officers	Other Ranks	
20	0.4	0.4	0.3	0.7	1.1	0.5
25	0.5	0.5	0.3	0.7	1.1	0.5
30	0.6	0.6	0.4	0.8	2.6	0.6
35	0.7	0.8	0.5	1.0	4.5	0.8
40	0.8	1.2	0.7	1.3	6.3	1.2
45	1.2	1.9	0.9	3.1	7.5	1.9
50	1.9	3.3	1.2	8.0	8.7	3.1
55	3.1	6.2	2.2	13.5	12.3	5.1
60	5.7	10.7	4.4	18.8	18.8	8.2
65	10.7	18.5	8.6	25.2	28.4	12.7
70	19.7	30.1	13.6	34.5	46.5	20.3
75	34.5	47.3	22.3	51.3	69.5	33.3
80	62.8	72.1	39.1	75.1	84.6	52.3
85	99.9	106.3	68.1	110.3	111.2	83.8
90	151.5	159.4	119.7	149.2	157.0	133.0
95	224.0	231.7	194.0	222.3	230.0	194.0
100	317.6	324.1	289.6	315.2	321.7	289.6
105	495.7	495.7	415.2	495.7	495.7	415.2
110	500.0	500.0	492.4	500.0	500.0	492.4

¹ Expressed in completed years calculated at the beginning of the plan year.

Table 21 Assumed Longevity Improvement¹ Factors

<u>Age²</u>	<u>Annual Percentage of Mortality Reduction</u>			
	<u>Male</u>		<u>Female</u>	
	<u>2003</u>	<u>2025+</u>	<u>2003</u>	<u>2025+</u>
20	2.70	0.50	1.82	0.50
25	2.26	0.50	1.60	0.50
30	1.38	0.50	1.16	0.50
35	0.72	0.50	1.16	0.50
40	0.94	0.50	1.16	0.50
45	1.60	0.50	1.60	0.50
50	2.26	0.50	1.82	0.50
55	2.48	0.50	1.60	0.50
60	2.48	0.50	1.38	0.50
65	2.26	0.50	1.38	0.50
70	1.82	0.50	1.38	0.50
75	1.38	0.50	1.16	0.50
80	1.16	0.50	0.94	0.50
85	0.72	0.50	0.72	0.50
90	0.50	0.50	0.50	0.50
95	0.25	0.25	0.25	0.25
100	0.25	0.25	0.25	0.25
105	0.00	0.00	0.00	0.00

¹ Mortality improvement is based on a 22-year select period with an ultimate annual mortality improvement of 0.5% at all ages.

During the select period, the annual mortality reduction is linearly interpolated between the figures of 2003 and 2025.

² Expressed in completed years calculated at the beginning of the plan year.

Appendix 7 - Acknowledgements

The Office of the Comptroller General of Canada provided a certification of the assets of the Regular Force Death Benefit Account as at 31 March 2002.

The Department of National Defence provided relevant valuation data on participants. Public Works and Government Services Canada also provided additional information in respect of elective participants.

The co-operation and able assistance received from the above-mentioned data providers deserve to be acknowledged.

The following individuals assisted in the preparation of this report:

John Kmetec, A.S.A.
François Boulé
Rheia Khalaf