



Office of the Superintendent
of Financial Institutions Canada

Bureau du surintendant
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REGULAR FORCE DEATH BENEFIT ACCOUNT

ACTUARIAL REPORT

AS AT DECEMBER 31, 1983

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CANADIAN FORCES SUPERANNUATION ACT - PART II

Report on Actuarial Examination of the Regular Force Death Benefit Account in the Consolidated Revenue Fund as at December 31, 1983

I. Summary

Pursuant to section 40 of the Canadian Forces Superannuation Act (hereinafter the "Act"), we have completed an actuarial examination of the Regular Force Death Benefit Account in the Consolidated Revenue Fund as at December 31, 1983. At that date the total benefit coverage for all participants was approximately \$2.68 billion.

Based on the assumptions described in Appendix 1, the current average cost for non-elective* and elective participants combined is estimated to be approximately \$0.26 per month per \$1,000 benefit. The average monthly cost per \$1,000 benefit is expected to increase gradually to approximately \$0.34 around 2025 and thereafter to decrease gradually to an ultimate cost of approximately \$0.32. These changes in estimated costs arise primarily from projected changes in the age composition of the insured population.

The contribution stabilization reserve in the Regular Force Death Benefit Account was \$48.7 million as at December 31, 1983, or about 5.8 times the expected amount of benefits payable from the Account in 1984. Without any changes in the benefit and financing provisions of the Plan, the income (including interest) is expected to exceed charges until about 2022. The contribution stabilization reserve under these circumstances is expected to be substantially more than adequate to cushion adverse experience fluctuations until 2030 at least.

Section II of this report presents a summary of the membership data. Section III sets out the estimated monthly cost of benefits subject to uniform contributions, both currently and in the long term. Section IV presents a statement of assets and liabilities for the Account as at December 31, 1983. Section V contains the actuarial opinion as regards the data, the actuarial assumptions and the actuarial method upon which this report is based. The actuarial assumptions entering into the calculations are described in Appendix 1 and a summary of the terms of the plan is provided in Appendix 3.

* See Appendix 3 for definitions.

II. Data

Data for participants who were members of the forces on December 31, 1983, and for elective participants were provided by the Department of National Defence. The following schedule shows pertinent statistics (including paid-up coverage) derived from the data.

Participants as at December 31, 1983

<u>Class</u>	<u>Number</u>	<u>Total Benefit</u>	<u>Average Benefit</u>
<u>Non-Elective Participants</u>			
(a) Officers:			
Male	15,457	\$ 520,814,250	\$33,694
Female	1,143	29,405,000	25,726
(b) Other Ranks:			
Male	59,532	1,413,246,250	23,739
Female	5,575	116,699,000	20,933
Sub-Totals	<u>81,707</u>	<u>\$2,080,164,500</u>	<u>\$25,459</u>
<u>Elective Participants</u>			
(a) entitled to an immediate annuity under the Act			
Males	44,953	\$ 594,038,250	\$13,215
Females	255	4,134,875	16,215
(b) not entitled to an immediate annuity under the Act	113	845,250	7,480
Sub-Totals	<u>45,321</u>	<u>\$ 599,018,375</u>	<u>\$13,217</u>
Grand Totals	127,028	\$2,679,182,875	\$21,091

III. Cost of Benefit subject to Uniform Monthly Contributions

A. Current Cost

As described in Appendix 3, non-elective participants and elective participants entitled to an immediate annuity on ceasing to be members of the regular force contribute to the Regular-Force Death Benefit Account at a monthly rate of 20 cents per \$1,000 of benefit regardless of age (except for the 10 cents reduction after age sixty-five in respect of the \$500 of benefit paid-up by the government).

For these participants the benefit cost expected to be experienced in the few years following December 31, 1983 was estimated by applying the mortality rates described in Appendix 1 to the benefit coverage of participants of the plan as at December 31, 1983. The results are shown in the following table:

<u>Current Cost per \$1000 Benefit</u>	
<u>Class</u>	<u>Monthly Cost</u>
Non-elective participants	\$0.144
Elective participants entitled to an immediate annuity	\$0.669
Combined	\$0.262

The above table gives an indication of the current level (including the margins in the mortality rates described in Appendix 1) of the direct monthly benefit cost for non-elective participants and elective participants entitled to an immediate annuity. There could be indirect costs in the event that benefits provided for elective participants not entitled to an immediate annuity and the \$500 paid-up benefit at age 65 for elective participants entitled to an immediate annuity are not operated on a self-supporting basis.

In group insurance contracts, it is normally provided that a member of the group may, upon termination of employment, convert group coverage to an individual life insurance policy from the insurance company at standard premium rates without submitting evidence of insurability. Persons who take advantage of this option often exercise selection against the insurance company, and the mortality experience of converted policies is normally unfavourable. Under the Regular Force Death Benefit plan a similar situation exists with respect to elective participants without entitlement to an immediate annuity. However, the relative number of cases is too small to have a measurable effect on the monthly cost noted above.

In view of the foregoing comments, the figures set out in the above table may be accepted as reflecting the total current average monthly cost including the margins noted in Appendix 1, which is seen to be about 26 cents per \$1,000 benefit for non-elective participants and elective participants entitled to an immediate annuity combined. The average monthly cost (net of the margins) is approximately 25.2 cents per \$1,000 benefit. This level of cost is supported by statistics included in the published annual reports on the administration of the Canadian Forces Superannuation Act for the six years ending March 31, 1986. These indicate current average monthly claim payments per \$1,000 benefit of between 21.3 cents and 24.8 cents.

Since monthly contributions from participants together with government credits equal to one-sixth of benefits paid* currently represent about 24 cents per \$1,000 benefit for these two classes of participants, the benefit payments are expected to slightly exceed the contribution income based on the assumptions noted previously. Nevertheless, interest credits will result in the Account remaining in a strong financial position for the foreseeable future. Observations on the future state of the Account follow the balance sheet presentation in Section IV.

B. Long-Term Cost

Long-term benefit costs were estimated according to the valuation bases described in Appendix 1. They are shown in the following table:

Long-Term Cost (monthly) per \$1000 Benefit

<u>Class</u>	<u>Calendar Year</u>			<u>Ultimate</u>
	<u>1995</u>	<u>2010</u>	<u>2025</u>	
Non-elective participants	\$0.135	\$0.156	\$0.150	\$0.152
Elective participants entitled to an immediate annuity	0.787	0.693	0.826	0.783
Combined	0.281	0.289	0.336	0.325

*In respect of participants who at the time of death were contributing in respect of death benefits and were members of the forces or were entitled to an immediate annuity under Part I of the Act or the Defence Services Pension Continuation Act.

The long-term estimated monthly costs in respect of non-elective and elective participants are projected to drift generally upward from current levels. The basic reason for this is the projected aging of both these groups (as evidenced by their increasing weighted average ages). This in turn results from the assumed continuation of current assumed distributions of new entrants and rates of decrement, i.e. mortality, disability, retirement and termination, subject to the constraints imposed in the projection (constant non-elective populations within each sex/rank category).

The current and projected ultimate average ages of various sub-populations are shown below. The average ages are calculated using amounts of insured benefit (excluding paid-up coverage) as weights.

Category	Average Age			
	Non-elective		Elective	
	current	ultimate	current	ultimate
Officers				
- male	37.43	39.29	55.77	56.78
- female	32.16	38.52	55.78	57.11
Other ranks				
- male	32.67	35.93	52.09	54.99
- female	26.90	34.69	48.68	55.30

The projected trend of the estimated monthly cost for employed participants disclosed in this report differs notably from that of the preceding report in that the current outlook is for an increasing estimated monthly cost whereas the prior report indicated a decreasing trend from current to ultimate levels. The principal cause for this development is the use of updated rates of termination and retirement based on recent experience.

The currently assumed rates of termination of membership in the regular force without entitlement to an unreduced annuity are lower than those previously used at most ages for all groups except male officers. The use of lower termination rates will generally result in a projected aging of a constant population group relative to a similarly constrained group projected using higher termination rates.

The rates of retirement (non-disability) used currently in the case of Other Ranks are lower than those used previously at most ages. In relative terms, this type of change in assumption will also generally tend to age a group projected subject to a constant population constraint.

As noted above, the elective participant population is projected to age somewhat, and, as was the case in the previous report, is the primary factor producing the projected increasing trend in the estimated monthly cost for this group.

The proportion of female coverage to male coverage is projected to increase from 0.7% currently to 7.8% ultimately in the case of elective participants and from 7.1% currently to 8.0% ultimately as respects non-elective participants. This factor dampens the increasing trend in estimated monthly cost that would occur were the proportion of female coverage to male coverage assumed to be fixed during the projection period.

The estimated ultimate monthly cost for non-elective and elective participants combined is expected to be about 24.0% higher than the estimated current (1983) monthly cost. This change is the net result of:

- (i) the change in the age distribution of the insured population noted in the preceding paragraphs resulting in an increase in the monthly cost of approximately 16.7%;
- (ii) the change in the male/female distribution of the insured population resulting in a decrease in the monthly cost of approximately 3.4%; and
- (iii) other factors, including the change in the proportion of total coverage on elective participants versus non-elective participants, resulting in an increase of approximately 10.7%.

IV. Balance Sheet and Contribution Stabilization Reserve Projection

The following balance sheet shows the state of the Regular Force Death Benefit Account as at December 31, 1983.

<u>Assets</u>	(in thousands)
Balance of Account	\$49,591
Due and accrued Government contributions	322
Contributions due from participants	540
Interest due on Account	<u>1,290</u>
Total Assets	\$51,743
<u>Liabilities</u>	
Actuarial present value of \$500 paid-up benefit for participants over age 64 who are entitled to an immediate annuity	\$ 1,762
Actuarial liability for elective participants not entitled to an immediate annuity	13
Reserve for claims incurred but unreported or reported but not paid	<u>1,231</u>
Total liabilities	3,006
Contribution stabilization reserve	<u>48,737</u>
	\$51,743

The contribution stabilization reserve of \$48.7 million shown in the above statement is equal to about 5.8 times the expected benefits payable from the Account in 1984. For the existing plan, this reserve is expected to grow gradually until 2021 and to decrease thereafter. The ratio of the projected stabilization reserve to the expected claims in the following year increases gradually until 2002 at which time its expected value is about 7.4, and thereafter decreases gradually as illustrated in the following table.

Projected Ratio of Contribution Stabilization Reserve to Annual Benefit Payments in the Following Year

<u>Year</u>	<u>Ratio</u>
1995	7.0
2010	6.3
2020	4.2
2030	2.3
2040	0.4

V. Actuarial Opinion

In my opinion, for the purposes of this actuarial report:

- (a) the data upon which the calculations have been based are sufficient;
- (b) the assumptions used are reasonable and appropriate;
- (c) the methods employed are consistent with sound actuarial principles.

This report has been prepared and this opinion has been given in accordance with generally-accepted actuarial principles and the recommendations of the Canadian Institute of Actuaries.

Respectfully submitted,



Walter Riese, F.C.I.A.
Chief Actuary

Ottawa, Canada

July 20, 1988

APPENDIX 1

Valuation Assumptions

A. Interest

Currently the Regular Force Death Benefit Account is credited quarterly with interest calculated on the balance in the Account in accordance with Section 55 of the Canadian Forces Superannuation Regulations. The rates specified in the Regulations are the same as those at which interest credits in respect of the Canadian Forces Superannuation Account are calculated. These rates are based on notional investments of cash flow in long-term government securities similar to those prescribed for purposes of the Canada Pension Plan and they vary from quarter to quarter. The quarterly rates applicable to various portions of the balance in the Account during the calendar year 1983 were equivalent to an annual rate of approximately 10.65% per annum.

Actuarial liabilities play a minor role in the operation of this Account, and it was considered appropriate to estimate their value using an assumed rate of interest of 6% per annum. For the purpose of projecting the contingency reserve, interest credits were calculated in accordance with assumed fund yields developed for purposes of Appendix 1 to the Actuarial Report on the Canadian Forces Superannuation Account* as at December 31, 1983, which are as follows:

<u>Year</u>	<u>Interest assumed in projection of Contribution Stabilization Reserve (%)</u>
1984-1991	9.8, 10.2, 10.1, 10.1, 10.1, 10.0, 9.8, 9.7
1992-1998	9.5, 9.4, 9.3, 9.1, 8.9, 8.7, 8.5
1999-2005	8.3, 8.0, 7.7, 7.2, 6.8, 6.6, 6.2
2006 +	6.0

B. Mortality

(1) Non-elective Participants

Active contributors under Part I of the Act comprise a group largely identical with that of the non-elective participants under Part II. We have, therefore, adopted the rates assumed for purposes of the Actuarial Report on the Superannuation Account as at December 31, 1983, modified so as to produce a 10% aggregate margin relative to the actual experience observed during the period 1976-83. The rates are shown in Appendix 2A.

* see page 26 of that report

(2) Elective participants entitled to an immediate annuity

A large proportion of participants who became entitled to immediate annuities upon ceasing to be employed in the regular force between January 1, 1955 and July 14, 1960, did not become retired participants. This situation changed largely as the result of the 1960 amendments to the Act.

Since July 14, 1960, it has no longer been necessary for a participant who becomes an annuitant to take positive action to retain the death benefit coverage. In fact, the only action such participant may now take is to elect to reduce coverage to \$500.

For mortality purposes, this class of retired participants is divided into two separate groups, depending on whether participants become entitled to an immediate annuity under the Canadian Forces Superannuation Act because of disability or for other reasons.

For participants who retired with an immediate annuity entitlement for reasons other than disability the rates used were those of the 1983 GAM Table using certain age adjustments. In the case of male participants ages were set forward one year at ages less than 65 for Officers and four years at all ages for Other Ranks. In the case of retired female Other Ranks all ages were set forward three years. These rates fit reasonably closely the experience of recent years and will be reviewed soon in the light of 1984-1987 experience in connection with the report as at December 31, 1987. The rates are displayed in Appendix 2B.

For retired participants entitled to an immediate annuity because of disability, the rates adopted are based on 300% of the 1983 GAM Table. It was found that these rates produce a reasonably close fit to the actual experience of recent years and contain a margin relative to the rates used for such individuals in the recent valuation of the Canadian Forces Superannuation Account. These rates will also be reviewed in connection with the 1987 actuarial report on the Regular Force Death Benefit Account. The rates are displayed in Appendix 2C.

(3) Participants entitled to \$500 paid-up benefit coverage

All participants entitled to the \$500 paid-up benefit coverage at age 65 or over are included in the group described in (2) above. For purposes of determining the actuarial reserve in respect of the paid-up benefit the mortality rates used are those of the Life Tables 1980-82, Canada, published by Statistics Canada. They are shown in Appendix 2D.

- (4) Elective participants who do not become entitled to an immediate annuity on ceasing to be employed in the regular force

The mortality bases used to compute the actuarial reserve in respect of former participants who are contributing at commercial rates are the same as those described in (2) above for elective participants entitled to an immediate annuity because of disability. These rates are shown in Appendix 2C.

C. Other Assumptions

For purposes of the long-term projections it was assumed that:

- (1) the distribution of non-elective participants by rank and sex will remain constant and equal to the distribution at December 31, 1983;
- (2) the age and relative salary distribution of new non-elective participants in each future year will be, respectively, the same as:
 - (a) the age distribution of persons who became contributors under Part I of the Act during the 1981-83 period;
 - (b) the relative salary distribution as at December 31, 1983 of those who became contributors under Part I during 1983 (see Appendices 2E and 2F);
- (3) participants will experience mortality in accordance with the bases described in B above;
- (4) the probabilities of disability, retirement and "other termination" for non-elective participants will be the same as the corresponding probabilities assumed for purposes of the examination of the Canadian Forces Superannuation Account as at December 31, 1983;
- (5) the probability of a non-elective participant, who upon ceasing to be a member of the regular force is entitled under Part I of the Act or under the Defence Services Pension Continuation Act to an immediate annuity, electing to reduce his or her coverage to the minimum (\$500) is five per cent if the cause of release is disability and fifteen per cent if the cause of release is other than disability;

- (6) non-elective participants will receive promotional increases in salary from December 31, 1983, or from the date at which participation commences if later, on the basis of the promotional salary scales used for purposes of the examination of the Canadian Forces Superannuation Account as at December 31, 1983 (see Appendix 2G);
- (7) in addition to promotional increases in salaries referred to in (6) above, economic increases in salaries are:

Officers:	1984-1989(%)	4.3, 3.6, 5.6, 3.3, 3.0, 4.0
	1990-1994(%)	3.6, 3.4, 3.6, 4.0, 4.5
	past 1994(%)	5.0

Other Ranks:	1984-1989(%)	4.7, 3.6, 5.8, 3.3, 3.0, 4.0
	1990-1994(%)	3.6, 3.4, 3.6, 4.0, 4.5
	past 1994(%)	5.0

- (8) non-elective participants who cease to be employed without entitlement to an immediate annuity and become elective participants will not be a source of significant gain or loss.

These assumptions are very broad but are believed to produce reasonably safe estimates of the cost of benefit coverage in the long term.

With regard to (8) above, it seems unlikely that more than a very small proportion of contributors who cease to be employed without entitlement to an immediate annuity will become or remain elective participants. This is because the death benefit coverage is not permanent insurance and has no cash or loan value, contribution rates are not lower than could be obtained by healthy persons in the open market, election is not automatic, and contributions are only rarely payable automatically as a deduction from "annuitant" cheques.

APPENDIX 2A

Rates of mortality for non-elective participants

Age	Males		Females
	Officers	Other Ranks	Officers and Other Ranks
17	.00024	.00173	.00037
18	.00028	.00184	.00044
19	.00054	.00191	.00053
20	.00075	.00195	.00060
21	.00094	.00194	.00066
22	.00109	.00182	.00067
23	.00120	.00165	.00069
24	.00128	.00149	.00069
25	.00134	.00140	.00069
26	.00137	.00135	.00069
27	.00140	.00132	.00070
28	.00142	.00128	.00072
29	.00143	.00123	.00073
30	.00143	.00116	.00076
31	.00142	.00112	.00078
32	.00139	.00109	.00080
33	.00135	.00106	.00082
34	.00129	.00109	.00083
35	.00124	.00115	.00088
36	.00122	.00127	.00092
37	.00122	.00145	.00101
38	.00126	.00163	.00110
39	.00135	.00177	.00120
40	.00146	.00182	.00132
41	.00159	.00185	.00145
42	.00173	.00192	.00159
43	.00189	.00209	.00176
44	.00205	.00239	.00193
45	.00223	.00277	.00212
46	.00242	.00324	.00234
47	.00263	.00374	.00257
48	.00286	.00426	.00281
49	.00311	.00475	.00307
50	.00339	.00522	.00338
51	.00371	.00569	.00372
52	.00408	.00616	.00410
53	.00448	.00662	.00451
54	.00494	.00711	.00494
55	.00544	.00758	.00543
56	.00597	.00842	.00595
57	.00671	.00929	.00651
58	.00744	.01024	.00709
59	.00822	.01124	.00772

APPENDIX 2B

Rates of mortality for
elective participants entitled to an immediate annuity
for reasons other than disability

Age	Males		Females	
	Officers	Other Ranks	Officers	Other Ranks
30	.00064	.00078	.00034	.00041
31	.00069	.00086	.00036	.00044
32	.00073	.00091	.00039	.00048
33	.00078	.00097	.00041	.00050
34	.00086	.00104	.00044	.00053
35	.00091	.00113	.00048	.00057
36	.00097	.00124	.00050	.00062
37	.00104	.00137	.00053	.00066
38	.00113	.00153	.00057	.00072
39	.00124	.00171	.00062	.00077
40	.00137	.00193	.00066	.00084
41	.00153	.00218	.00072	.00092
42	.00171	.00247	.00077	.00101
43	.00193	.00279	.00084	.00112
44	.00218	.00314	.00092	.00124
45	.00247	.00351	.00101	.00137
46	.00279	.00391	.00112	.00150
47	.00314	.00432	.00124	.00165
48	.00351	.00475	.00137	.00179
49	.00391	.00520	.00150	.00195
50	.00432	.00566	.00165	.00212
51	.00475	.00613	.00179	.00231
52	.00520	.00662	.00195	.00254
53	.00566	.00714	.00212	.00280
54	.00613	.00772	.00231	.00310
55	.00662	.00838	.00254	.00344
56	.00714	.00916	.00280	.00382
57	.00772	.01006	.00310	.00424
58	.00838	.01113	.00344	.00470
59	.00916	.01239	.00382	.00521
60	.01006	.01387	.00424	.00577
61	.01113	.01559	.00470	.00638
62	.01239	.01758	.00521	.00706
63	.01387	.01980	.00577	.00782
64	.01559	.02223	.00638	.00868
65	.01718	.02482	.00706	.00970
66	.01891	.02753	.00782	.01092
67	.02077	.03035	.00868	.01238
68	.02275	.03337	.00970	.01413
69	.02482	.03668	.01092	.01616

APPENDIX 2C

Rates of mortality for elective participants who are
a) in receipt of an immediate annuity
because of disability, or
b) not entitled to an immediate annuity

<u>Age</u>	<u>Males</u>	<u>Females</u>
25	.00139	.00076
26	.00146	.00080
27	.00154	.00085
28	.00163	.00090
29	.00172	.00096
30	.00182	.00103
31	.00194	.00109
32	.00206	.00116
33	.00220	.00124
34	.00236	.00133
35	.00258	.00143
36	.00272	.00151
37	.00290	.00161
38	.00312	.00172
39	.00338	.00185
40	.00371	.00200
41	.00411	.00215
42	.00458	.00233
43	.00514	.00252
44	.00580	.00276
45	.00655	.00303
46	.00741	.00335
47	.00837	.00371
48	.00941	.00410
49	.01054	.00452
50	.01173	.00494
51	.01297	.00538
52	.01427	.00584
53	.01560	.00636
54	.01698	.00695
55	.01839	.00762
56	.01985	.00841
57	.02142	.00931
58	.02316	.01033
59	.02515	.01146
60	.02747	.01272
61	.03019	.01411
62	.03340	.01563
63	.03717	.01731
64	.04160	.01916
65	.04678	.02119
66	.05274	.02345
67	.05941	.02604
68	.06669	.02911
69	.07445	.03276

APPENDIX 2D

Rates of mortality used for
valuation of \$500 paid-up benefit coverage

<u>Age</u>	<u>Males</u>	<u>Females</u>
65	.02555	.01255
66	.02791	.01376
67	.03046	.01512
68	.03317	.01659
69	.03601	.01814
70	.03907	.01983
71	.04242	.02177
72	.04617	.02402
73	.05026	.02648
74	.05460	.02914
75	.05930	.03208
76	.06441	.03545
77	.07002	.03939
78	.07607	.04382
79	.08252	.04866
80	.08939	.05401
81	.09685	.05994
82	.10480	.06656
83	.11338	.07378
84	.12245	.08155
85	.13205	.09000
86	.14224	.09915
87	.15322	.10913
88	.16471	.11983
89	.17691	.13128
90	.18982	.14354
91	.20330	.15659
92	.21770	.17065
93	.22331	.17546
94	.21997	.17104
95	.22214	.17242
96	.24443	.19534
97	.30109	.25473
98	.41247	.37345
99	.56942	.54102
100	.74275	.72398
101	.90141	.88798
102	1.00000	1.00000

APPENDIX 2E

Assumptions relating to male new entrants

Age	<u>Officers</u>		<u>Other Ranks</u>	
	<u>Distribution</u>	<u>Average Salary</u>	<u>Distribution</u>	<u>Average Salary</u>
17.5	.039779	\$ 8,136	.018803	\$ 10,380
18.5	.167828	8,253	.168371	11,259
19.5	.185541	8,602	.218644	11,074
20.5	.122822	9,304	.177080	11,122
21.5	.078107	11,937	.125685	11,185
22.5	.064750	14,370	.088012	11,468
23.5	.069396	16,948	.062084	11,923
24.5	.070848	18,104	.047767	12,472
25.5	.058653	19,119	.031800	13,433
26.5	.040941	18,919	.021112	13,921
27.5	.025552	20,479	.009830	16,647
28.5	.013937	20,370	.006664	20,435
29.5	.012485	22,162	.004684	20,091
30.5	.010163	22,168	.005344	22,017
31.5	.007840	27,566	.003563	20,544
32.5	.006098	21,301	.001781	23,556
33.5	.003775	22,896	.001781	23,796
34.5	.004936	25,591	.001715	24,036
35.5	.004065	34,638	.000990	24,236
36.5	.001742	36,096	.000990	24,236
37.5	.002323	36,453	.000330	24,236
38.5	.001742	36,453	.000396	24,636
39.5	.000290	36,453	.000330	24,432
40.5	.000871	36,453	.000132	24,432
41.5	.001161	36,453	.000396	24,432
42.5	.001161	36,453	.000528	24,432
43.5	.000871	36,453	.000330	24,432
44.5	.000290	36,453	.000132	24,432
45.5	.000581	36,453	.000132	24,432
46.5	.000581	36,453	.000066	24,432
47.5	.000581	36,453	.000066	24,432
48.5	.000290	36,453	.000066	24,432
49.5	--		.000132	24,432
50.5	--		.000132	24,228
51.5	--		.000066	24,228
52.5	--		.000066	24,228,

Average Entry Age

Average Starting Salary

Officers: 22.2
Other Ranks: 21.3

\$13,128
\$11,793

APPENDIX 2F

Assumptions relating to female new entrants

<u>Age</u>	<u>Officers</u>		<u>Other Ranks</u>	
	<u>Distribution</u>	<u>Average Salary</u>	<u>Distribution</u>	<u>Average Salary</u>
17.5	.040968	\$ 8,028	.008929	\$ 10,776
18.5	.126629	8,028	.131944	10,776
19.5	.150840	8,028	.240576	10,917
20.5	.106145	8,234	.191468	11,437
21.5	.085661	10,448	.120536	12,148
22.5	.093110	16,175	.090774	12,630
23.5	.091248	18,483	.063988	12,317
24.5	.059590	20,244	.041171	11,837
25.5	.050279	18,396	.043651	16,579
26.5	.046555	20,832	.022321	17,512
27.5	.020484	21,348	.010913	21,772
28.5	.018622	15,492	.007937	21,884
29.5	.007449	17,214	.005456	15,312
30.5	.014898	18,936	.004464	16,548
31.5	.018622	18,288	.006944	19,098
32.5	.011173	19,548	.001488	16,324
33.5	.011173	19,968	.001984	16,324
34.5	.003724	22,464	.003968	10,776
35.5	.016760	24,960	.000992	17,502
36.5	.007449	30,480	.000496	24,228
37.5	.011173	30,480	--	
38.5	.003724	30,480	--	
39.5	.003724	30,480	--	

	<u>Average Entry Age</u>	<u>Average Starting Salary</u>
Officers:	23.0	\$13,834
Other Ranks:	21.4	\$12,165

APPENDIX 2G

Promotional salary scales

<u>Service</u>	<u>Officers</u>	<u>Other Ranks</u>
0	.145	.233
1	.165	.288
2	.197	.354
3	.244	.430
4	.309	.503
5	.381	.558
6	.444	.593
7	.492	.615
8	.531	.631
9	.567	.644
10	.599	.655
11	.631	.666
12	.663	.676
13	.692	.688
14	.715	.701
15	.734	.714
16	.751	.728
17	.767	.742
18	.783	.758
19	.799	.774
20	.814	.790
21	.830	.806
22	.845	.823
23	.859	.839
24	.874	.856
25	.889	.872
26	.903	.888
27	.917	.903
28	.930	.918
29	.943	.934
30	.954	.948
31	.963	.961
32	.972	.972
33	.980	.982
34	.990	.991
35+	1.000	1.000

APPENDIX 3

Summary of the Supplementary Death Benefit Plan

The terms of the plan are set out in Part II of the Canadian Forces Superannuation Act, entitled "Supplementary Death Benefits".

Participants

Members and former members of the Canadian Forces who are eligible for benefits under Part II of the Act are termed "participants". They are divided into non-elective and elective participants.

(1) Non-Elective Participants

For purposes of this report "non-elective participants" comprise

- (a) members of the regular force on December 31, 1983; and
- (b) members of the reserve force* on December 31, 1983 who are, with the approval of the Chief of the Defence Staff, on full-time service in positions in regular force establishments or as supernumeraries to regular force establishments.

(2) Elective Participants

For the purpose of this report, "elective participants" include all participants who have ceased to be members in the regular force and have elected to continue as participants under Part II of the Act. The right of election is limited to participants who, at the time they cease to be members, have at least five continuous years of service in the regular force or have been participants under the plan for at least five continuous years. Election must be made either within one year before ceasing to be a member of the regular force or within thirty days afterwards. In the case of a participant not entitled to an immediate annuity on cessation of employment, the death benefit coverage is extended for thirty days after the date of cessation whether or not the participant exercises his right of election. A participant who becomes entitled to an immediate annuity under Part I of the Act or the Defence Services Pension Continuation Act (DSPCA) upon ceasing to be a member of the regular force is deemed to have elected to continue as a participant, but such person may elect to have the amount of his benefit reduced to \$500.

* This class of participant was added by an amendment to the Act in December 1975.

An elective participant, who becomes a participant in the Public Service Supplementary Death Benefit Plan, ceases to be a participant in this plan. Any such person who subsequently ceases to be a participant in the Public Service Supplementary Death Benefit Plan, without entitlement to an immediate annuity under the Public Service Superannuation Act, who is entitled to an immediate annuity under Part I of the Act or under the DSPCA, is deemed thereupon to regain the status of elective participant in this plan.

Benefits

The basic benefit with respect to a participant means the salary of the participant if it is a multiple of two hundred and fifty dollars or the nearest multiple of two hundred and fifty dollars above such salary, subject to a reduction of one-tenth of that amount for every year of age in excess of sixty attained by the participant. Notwithstanding the foregoing, in the case of an elective participant who, upon ceasing to be a member of the regular force or upon ceasing to be employed in the Public Service, was entitled under Part I of the Act or under the D.S.P.C.A. to an immediate annuity or pension, the basic benefit shall not be less than five hundred dollars.

Upon ceasing to be a member of the regular force with entitlement to an immediate annuity or pension under Part I of the Act or under the DSPCA, the participant may elect to have the basic benefit reduced to five hundred dollars. Such an election is irrevocable.

For the purpose of determining the amount of basic benefit, the salary of a participant means the greater of his or her pay expressed in terms of an annual rate and \$3,000, if his or her rank is lower than warrant officer or \$5,000, if his or her rank is warrant officer or higher. (Prior to August 1, 1966, these amounts of \$3,000 and \$5,000 had been the basic benefits, subject to reduction above age 60, for all participants in the two respective groups based on rank regardless of their rates of pay.) The pay of an elective participant means his or her rate of pay at the time of ceasing to be a member of the regular force.

Contributions by Participants

On August 1, 1966, the same date as the basic benefit was changed, the contribution rate for non-elective participants was reduced from 10 cents to 5 cents per month for each \$250 of benefit.

For elective participants entitled to an immediate annuity, the rate of contribution is the same as that for non-elective participants except that upon attaining age 65, the total contribution is reduced by 10 cents per month. This is in recognition of the fact that \$500 of the benefit is paid-up for the remaining lifetime of the participant by means of a single premium credited to the Account by the Government at that time.

For elective participants not entitled to an immediate annuity under Part I of the Act or the DSPCA, the rate of contribution is dependent upon the age of the participant on the thirtieth day immediately following the date on which he ceases to be a member of the regular force. The following schedule shows the applicable rates for quinquennial ages:

<u>Age Last Birthday</u>	<u>Annual Contribution per \$1,000 Benefit</u>	<u>Monthly Contribution per \$1,000 Benefit</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

Credits by Government

In respect of participants who at the time of death were members of the forces or were entitled to an immediate annuity under Part I of the Act or the DSPCA, the Government credits to the Account one-sixth of the benefit paid on which contributions were being paid by the participant at the time of death.

In respect of elective participants who attain age 65 and are entitled to an immediate annuity under Part I of the Act or the DSPCA, the Government credits to the Account an amount representing the single premium for the \$500 of benefit for life, calculated on the basis of the Canadian Life Tables 1950-1952 and interest at 4% per annum. At the same time, the participants cease to pay contributions on the first \$500 of basic benefit.

The Government also credits to the Account, at the end of each quarter of the fiscal year, an amount representing interest calculated by applying to the balance in the Account at the end of the preceding quarter the same rate of interest that is determined each quarter for the purpose of crediting interest in respect of the Canadian Forces Superannuation Account. More details are given on page 9.