

REPORT ON THE ACTUARIAL EXAMINATION
OF THE
ROYAL CANADIAN MOUNTED POLICE (DEPENDANTS) PENSION FUND
AS AT
MARCH 31, 1990

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Royal Canadian Mounted Police Pension Continuation Act - Part IV

Report on the Actuarial Examination
of the
Royal Canadian Mounted Police (Dependants) Pension Fund
as at March 31, 1990

I. Introduction and Summary

Pursuant to the provisions of section 56 of the Royal Canadian Mounted Police Pension Continuation Act, we have made an actuarial examination of the Royal Canadian Mounted Police (Dependants) Pension Fund as at March 31, 1990.

Section II of this report presents a summary of the membership data. Section III sets out the financial statements and section IV reconciles the change in the surplus of the Fund between the previous and the current examination of the Fund. Section V includes our recommendation with respect to the distribution of a portion of the surplus as at March 31, 1990. Section VI contains the actuarial opinion as regards the data, the actuarial assumptions and the actuarial methods upon which the examination is based. The actuarial assumptions are described in Appendix 1. Detailed summaries of the valuation results are given in Appendix 2. Summaries of the history and provisions of Part IV of the Act are given in Appendices 3 and 4, respectively. A comprehensive listing of previous surplus distributions is found in Appendix 5. Mortality rates used for the purpose of determining the actuarial present value of future benefits and contributions are shown in Appendix 6.

The last examination of this Fund was made as of March 31, 1988. Since that time two minor amendments have been made to the provisions of Part IV of the Act, both as a result of Bill C-24 which received Royal Assent on June 29, 1989. Bill C-24 repealed the provision for suspending the annuity entitlements, upon marriage, of surviving children between the ages of 21 and 25 while in full-time attendance at a school or university. In addition, it repealed the provision for actuarially reducing the pension of a widow who was more than 20 years younger than her husband at the date of his death. Moreover, previously suspended or reduced annuities became eligible for reinstatement or restoration to the original amount on and with effect from June 29, 1989. (As it happened, there were no individuals eligible for reinstatement or restoration as at June 29, 1989.) For a number of other plans, Bill C-24 also repealed provisions for suspending widows' pensions upon remarriage and reinstated such pensions that had been suspended. However, this feature of Bill C-24 had no effect on the Royal Canadian Mounted Police (Dependants) Pension Fund because this Fund had never provided for suspension of widows' pensions upon remarriage.

The increases in benefits accruing from surplus distributions implemented as a result of recommendations made in the 1988 examination were 20% as of April 1 of both 1989 and 1990. These increases applied only to benefits accrued in respect of which contributions had been made; specifically, they did not apply to any benefits arising from previous surplus distributions.

The total increase in benefits accruing from authorized surplus distributions to date (see Appendix 5 for a complete listing) is 350% of all current and prospective benefits purchased by those contributions made or deemed to have been made prior to April 1, 1978.

Based on the assumptions described in Appendix 1, the total assets as of March 31, 1990 are \$19,215,000. At the same time the total liabilities (including the present value of benefit increases granted as of April 1, 1990) are \$15,654,400. The resulting surplus is then \$3,560,600.

We recommend that a portion of the surplus be used for these purposes:

- (i) to provide current and prospective actual widows and children with benefit increases equal to 30% of basic* benefits, retroactive to April 1, 1991 and to provide an identical increase effective April 1, 1992, and
- (ii) to deem that, for purposes only of calculating a residual amount upon the death of a widow, a member's contributions are equal to his actual contributions increased by 380%, retroactive to April 1, 1991 and increased by a further 30% of his actual contributions effective April 1, 1992.

Implementation of both parts of this recommendation would increase the liabilities and therefore decrease the surplus as at March 31, 1990 by approximately \$1,978,000.

This report and the above figures make no explicit provision for benefit increases other than those recommended above. The valuation interest assumption, however, reflects our long term expectation and is much less than the anticipated interest rates for the near and medium term. The resulting excess interest credits, together with the surplus remaining after the distribution noted above, should be sufficient to provide substantial inflationary protection for the foreseeable future.

* Basic benefits are those which were actually purchased by contributions made or deemed to have been made, in contrast to additional benefits which have arisen from numerous surplus distributions commencing as early as 1949.

II. Data and Membership Statistics

The Royal Canadian Mounted Police District Services Office of Supply and Services Canada maintains records of contributions, amounts of pensions and annuities in course of payment and other details necessary for the administration of Part IV of the Act. These records were examined for consistency and reasonableness both with regard to individual members or survivors and with regard to previous submissions and account data. The data are in our opinion reasonable and appropriate for the purpose of this report.

In this report, "member" means any former or current Part IV contributor who is alive at March 31, 1990 and whose contributions remain in the Fund. As it happens, all of the members are males. The term "eligible children" refers to those surviving children of a deceased member who are in receipt of an annuity from Part IV; we give a full definition in section F of Appendix 1.

The membership in Part IV has been declining steadily since April 1, 1959 because no new entrants have been admitted since that date. Current service contributions were made until March 31, 1978 by which time all Part IV members had retired from active service with the Royal Canadian Mounted Police. As of March 31, 1990, some members are still making instalment contributions in respect of past service.

The following schedule shows that the membership continued to decline during the period April 1, 1988 to March 31, 1990. The 10 withdrawals recorded during the period are quite high, especially in comparison to the previous period during which there was only a single withdrawal.

	<u>Members</u>	<u>Widows</u>	<u>Eligible Children</u>
At March 31, 1988	306	155*	2
Corrections to data	1	2	4
Deaths	(15)	(10)	0
New survivors	0	14	2
Withdrawals	(10)	0	0
Expiries	<u>0</u>	<u>0</u>	<u>(5)</u>
At March 31, 1990	282	161*	3

* Included is one widow whose annuity has been suspended pursuant to subsection 54(2) of the Act.

III. Financial Statements

An income statement for the period April 1, 1988 to March 31, 1990, a summary of the actuarial present value of future benefits as at March 31, 1990 and the valuation balance sheet as at March 31, 1990 follow. The actuarial present values are calculated according to the bases and assumptions described in Appendix 1. Detailed summaries of the valuation results are given in Appendix 2.

Income Statement
April 1, 1988 to March 31, 1990

	<u>1988</u>	<u>1989</u>
Fund balance at April 1	\$16,780,600	\$17,905,300
Contributions	23,300	19,900
Interest	1,832,100	1,944,100
Withdrawal payments	(17,500)	(35,900)
Annuity payments	(713,200)	(758,300)
Fund balance at March 31 of following year	\$17,905,300	\$19,075,100

Present Value of Future Benefits
as at March 31, 1990

	<u>Basic</u>	<u>Dividend*</u>	<u>Total</u>
Benefits in course of payment			
Widows	\$ 1,626,000	\$ 5,691,000	\$ 7,317,000
Eligible Children	1,500	5,500	<u>7,000</u>
			\$ 7,324,000
Prospective benefits			
Widows	1,828,400	6,399,400	8,227,800
Eligible Children	6,000	21,100	<u>27,100</u>
			<u>8,254,900</u>
Total	\$ 3,461,900	\$12,117,000	\$15,578,900

* Includes 20% dividend declared as of April 1, 1990.

Valuation Balance Sheet
as at March 31, 1990

Assets

Fund balance	\$19,075,100
Present value of future instalment contributions	<u>139,900</u>
Total assets	\$19,215,000

Liabilities* and Surplus

Present value of benefits in course of payment	\$ 7,324,000
Present value of prospective death benefits	8,254,900
Outstanding payments	<u>75,500</u>
Total liabilities	\$15,654,400
Surplus	<u>3,560,600</u>
Total liabilities and surplus	\$19,215,000

* Includes liabilities in respect of dividend declared as of April 1, 1990.

IV. Reconciliation of Surplus

The balance sheet in this report shows a surplus in the Fund of \$3,560,600 which may be reconciled with the surplus of \$2,422,900 as at March 31, 1988 as follows:

Surplus at March 31, 1988		\$2,422,900
Cost of dividends per T.B. 810868		<u>(1,346,000)</u>
Restated surplus at March 31, 1988		1,076,900
Interest on restated surplus		133,100
Data corrections		(14,700)
Experience Gains		
- Investment returns	\$1,790,200	
- Withdrawals	280,000	
- Mortality of members	229,000	
- Mortality of widows	36,000	
- Miscellaneous items	<u>30,100</u>	
Subtotal		<u>2,365,300</u>
Surplus at March 31, 1990		\$3,560,600

V. Distribution of Surplus

Subsection 56(2) of the Act provides that the actuary who conducts the valuation shall make recommendations concerning the disposal of any surplus revealed by the valuation.

As in previous years, we believe that it would be equitable and desirable to distribute a portion of this surplus. However, the nature of the proposed distribution differs fundamentally from that of the previous distributions listed in Appendix 5. The fundamental change stems from a defect in plan design which has only emerged as a problem in the recent past but which, if not addressed, will cause intolerable inequities in the foreseeable future. For a member who dies without leaving a widow, the plan provides a lump sum death benefit equal to the present value of the pension which would have been received by a 75 year-old widow. In the past, this lump sum was smaller than the value of the pension payable to actual new widows (normally younger than age 75). In the foreseeable future, the actual new widows will be significantly older than 75 years of age. When that happens, the plan will be in the anomalous position of paying out more upon the death of a member leaving no widow than that of one leaving a widow - a situation which the architects of the plan could not possibly have intended. As a reasonable remedy, we recommend that dividend increases from 1991 onwards be restricted to actual widows and children, both current and prospective; the corollary is that the dividend in respect of a lump sum death benefit would remain frozen at the 350% level attained on April 1, 1990.

In addition to the fundamental change already described, we are also making a recommendation concerning the residual amount payable on the early death of a widow. To date, this has been based on the excess of the member's contributions over the aggregate of the periodic payments actually paid to the widow and children. In future, we recommend that the member's contributions should be understood to include the full dividend percentage payable to an actual widow. By doing so, we would alleviate the severe financial disadvantage now suffered by a family when the wife dies immediately after her husband rather than immediately before. We believe this recommendation is also in harmony with the intentions of the architects of the plan because such disadvantage did not exist in the early years and subsequently arose only because dividends were excluded from the residual amount payable on the early death of a spouse beneficiary but were included in the lump sum benefit payable on the death of a widowed member.

Specifically we recommend that the following method be used for distributing a portion of the surplus which exists in the Royal Canadian Mounted Police (Dependants) Pension Fund:

- (a) Benefits for actual widows and children be increased by 30% retroactive to April 1, 1991 and 30% effective April 1, 1992, such increases to be in addition to but not dependent on the benefits authorized by P.C. 123/1833, P.C. 1955-8/1033, P.C. 1960-8/367, P.C. 1965-7/2303, T.B. 700054, T.B. 720862, T.B. 737531, T.B. 742727, T.B. 751700, T.B. 767185, T.B. 779418, T.B. 792014, T.B. 801121, T.B. 805358 and T.B. 810868, with the proviso that the increase be applicable to pensions and annuities in course of payment on the date of the Order authorizing the increases as well as to prospective pensions and annuities, and
- (b) For purposes only of calculating the residual amount payable on the death of a widow, a member's contributions be deemed to be his actual contributions increased by 380%, retroactive to April 1, 1991 and increased by a further 30% of his actual contributions effective April 1, 1992.

It may be noted that for the widows and children described in (a) above, the recommended increases, taken together with the increases effected by the previous distributions of surplus, would provide a total increase of 380% at April 1, 1991 and 410% at April 1, 1992 in current and prospective benefits purchased by contributions made or deemed to have been made. Alternatively, if we wish to express these recommended benefit increases as percentages of the total accrued benefits (basic plus previously declared dividends) rather than as percentages of only the basic benefits, then the increases are 6.67% and 6.25% at April 1 of each of 1991 and 1992, respectively.

The total actuarial present value as at March 31, 1990 of the recommended surplus distribution is approximately \$1,978,000. The balance sheet in this report shows a surplus in the Fund as at March 31, 1990 of approximately \$3,560,600. Approval of our recommendation would therefore reduce the surplus in the Fund to \$1,582,600.

Our ability to predict the mortality experience of former contributors to the plan, their spouses and widows and our ability to determine if observed differences between actual and expected mortality rates are significant is limited as a consequence of both the small number of persons exposed to risk and the advanced ages of these people. Accordingly, we believe it appropriate that the remaining surplus be retained in the Fund for future contingencies.

It is important to note that no explicit provisions for benefit increases other than those recommended herein are included in the report. However, the 6% valuation interest rate reflects our long term expectation and is much less than the anticipated rate at which interest will be credited* to the Fund for the near and medium term. As these "excess" interest credits emerge it should be possible to recommend future dividend increases which provide substantial inflation protection.

Based on projection methods similar to those used to estimate future fund yields in the actuarial reports on the major public sector pension plans such as the one established under the Public Service Superannuation Act, the interest rates applied to the Fund balance for the fiscal years ending 1991 and 1992 are estimated to be 11.0% and 10.8% per annum, respectively. Consequently, a significant surplus is expected as at March 31, 1992. We recommend that an actuarial examination of the Fund be performed at that date in order to ensure a timely and equitable distribution of the surplus, or a portion thereof, that then exists.

* The credited interest rate is determined in accordance with the procedure described in Appendix 4.

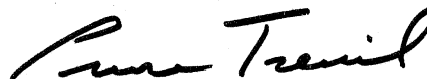
VI. Actuarial Opinion

In my opinion

- (a) the data upon which the calculations have been based are sufficient and reliable for the purposes of this report;
- (b) the assumptions used are reasonable and appropriate for the purpose of this report;
- (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



Pierre Treuil, F.C.I.A.
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Office of the Superintendent of Financial Institutions
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June 21, 1991

APPENDIX 1

Valuation Bases and Assumptions

The valuation was performed by calculating the actuarial present values, as at March 31, 1990, of the computed prospective benefits and of the benefits in course of payment. This was done by applying valuation factors, constructed in accordance with the bases and assumptions described below, to amounts of benefit classified into appropriate divisions.

A. Interest

For purposes of determining the actuarial present value of benefits and contributions, we have retained the 6.0% interest rate which was assumed in the previous report.

The Fund's investments are made in accordance with the principles guiding the investments of the Canada Pension Plan. The 6.0% rate is our estimate of the ultimate interest rate on new money invested on that basis. This long term rate is assumed to be composed of an inflation factor of 3.5% per annum and a real rate of return of approximately 2.5% per annum.

Interest earnings in excess of those based on the 6.0% rate will, in the absence of mortality losses, be available as they emerge to provide for increases in dividends or contingency reserves.

B. Mortality

1. Members - In the previous report, the mortality of members was assumed to follow the male mortality rates of the 1980-82 Canada Life Tables (published by Statistics Canada) projected ten years in accordance with Scale D of the Society of Actuaries.

During the two year period ending March 31, 1990, the actual mortality of the members was only 67% of that expected by the assumed table. However, since this statistic is based on only 15 actual deaths, it has limited credibility. Therefore, for this valuation we have retained the assumed mortality rates (see Appendix 6) from the last valuation.

2. Widows In the previous report, the mortality of widows in receipt of pension was assumed to follow the female mortality rates of the 1980-82 Canada Life Tables projected ten years in accordance with Scale D.

During the two year period ending March 31, 1990, the actual mortality of widows was 108% of that expected by the assumed table. However, since there were only 10 actual deaths, there is no real evidence to support a basis change. Therefore for this valuation we have retained the assumed mortality rates (see Appendix 6) from the last valuation.

3. Spouses - If the spouse predeceases the member, the latter does not normally report the death to the plan administrators. It is only at the time of the member's subsequent death that the wife's prior death becomes known. Under these circumstances, it was not possible to use the plan's reported experience as the basis for a mortality assumption. Instead, we made the convenient and reasonable assumption that the mortality of the spouses of living members will be identical to that of widows in payment.
4. Children - Because the mortality of children is very low, we deemed it suitable to value children's annuities without taking account of mortality.

C. Withdrawals

Although a significant number of members have recently exercised their right to withdraw from Part IV by receiving a refund of contributions, we anticipate lower rates of withdrawal in the future as members become better informed about the value of their accrued benefits. Consequently, we have retained the assumption that there will be no future withdrawals.

D. Marital Status

We based our valuation on the marital status of each member as it was reported to us by the plan administrator. We assumed there would be no future marriages, remarriages, or divorces. Under these circumstances, the probability of a married member being survived by his wife was based solely on the respective male and female mortality assumptions; the corresponding probability for an unmarried member was nil.

E. Suspended Pensions

For valuation purposes a widow's pension suspended pursuant to subsection 54(2) of the Act was treated as if there were no suspension.

F. Eligible Children

The term "eligible children" refers to those surviving children of a deceased contributor who are eligible for annuity benefits under Part IV. All such children who are less than 21 years old are eligible; in addition, children between the ages of 21 and 25 are eligible if they have been and still are in full-time attendance at school or university substantially without interruption since age 21 or since the member died, if later.

The assumptions regarding the average number of eligible children upon the death of a member and the average remaining benefit period of eligible children were identical to those adopted in the most recently published Actuarial Report (as at December 31, 1985) of the Royal Canadian Mounted Police Superannuation Account. As it happens, these assumptions were the same as those adopted in our previous report on Part IV.

The total liability in respect of current and prospective benefit payments to children is only 0.2% of the total liabilities in respect of all benefits payable from the Fund; consequently, any deviation of the actual experience from that assumed in respect of current and prospective child beneficiaries is not material for the purposes of this examination.

APPENDIX 2

Detailed Valuation Summaries as at March 31, 1990

A. Widows' Pensions in Course of Payment

<u>Age Nearest Birthday</u>	<u>Number of Widows</u>	<u>Basic Pension</u>		<u>Pensions Arising from 350% Dividend</u>	
		<u>Annual Payment</u>	<u>Value</u>	<u>Annual Payment</u>	<u>Value</u>
50-54	1	\$ 1,500	\$ 20,200	\$ 5,300	\$ 70,600
55-59	6	6,300	79,500	22,100	278,200
60-64	21	30,000	351,300	105,000	1,229,600
65-69	36	45,300	470,500	158,600	1,646,700
70-74	26	31,500	286,600	110,200	1,003,100
75-79	41	35,200	269,500	123,200	943,400
80-84	22	21,600	131,300	75,600	459,500
85-89	6	2,600	12,400	9,100	43,500
90-94	<u>2</u>	<u>1,300</u>	<u>4,700</u>	<u>4,600</u>	<u>16,400</u>
All ages	161	\$175,300	\$1,626,000	\$613,700	\$5,691,000

B. Eligible Children's Annuities in Course of Payment

<u>Age Nearest Birthday</u>	<u>Number of Eligible Children</u>	<u>Basic Annuity</u>		<u>Annuities Arising from 350% Dividend</u>	
		<u>Annual Payment</u>	<u>Value</u>	<u>Annual Payment</u>	<u>Value</u>
20-24	<u>3</u>	<u>\$2,400</u>	<u>\$1,500</u>	<u>\$8,400</u>	<u>\$5,500</u>
All ages	3	\$2,400	\$1,500	\$8,400	\$5,500

C. Prospective Widows' Pensions Arising from Current Membership

<u>Current Membership</u>		<u>Basic Pension</u>		<u>Pensions Arising from 350% Dividend</u>	
<u>Age Nearest Birthday</u>	<u>Number</u>	<u>Annual Payment</u>	<u>Value</u>	<u>Annual Payment</u>	<u>Value</u>
55-59	5	\$ 10,600	\$ 35,700	\$ 37,100	\$ 124,800
60-64	76	143,500	538,500	502,200	1,884,900
65-69	67	108,400	456,000	379,400	1,596,100
70-74	71	98,200	452,100	343,700	1,582,400
75-79	41	50,200	250,000	175,700	875,000
80-84	18	16,700	78,700	58,500	275,300
85-89	<u>4</u>	<u>3,500</u>	<u>17,400</u>	<u>12,200</u>	<u>60,900</u>
All ages	282	\$431,100	\$1,828,400	\$1,508,800	\$6,399,400

D. Prospective Eligible Children's Annuities Arising from Current Membership

<u>Current Membership</u>		<u>Basic Annuity</u>		<u>Annuities Arising from 350% Dividend</u>	
<u>Age Nearest Birthday</u>	<u>Number</u>	<u>Annual Payment</u>	<u>Value</u>	<u>Annual Payment</u>	<u>Value</u>
55-59	5	\$ 400	\$ 600	\$ 1,400	\$ 2,100
60-64	76	3,800	4,600	13,300	16,100
65-69	67	700	700	2,400	2,500
70-74	71	100	100	400	400
75+	<u>63</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
All ages	282	\$5,000	\$6,000	\$17,500	\$21,100

APPENDIX 3

History of Part IV

Prior to 1934, there was no legislative provision for benefits payable to dependants of constables. In that year, the Royal Canadian Mounted Police Act was amended by the addition of Part IV. The provisions of this Part enabled constables to purchase certain survivorship benefits for their dependants by payment of specified contributions. Constables on the Force on October 1, 1934, had the option of becoming contributors under Part IV by election; constables appointed to the Force after that date were required to become contributors as at the date of their appointment. Contributions equal to 5% of pay were required from all contributors, and supplementary contributions on a fixed scale according to age were permitted. All contributions were to be credited to an account in the Consolidated Revenue Fund called the Royal Canadian Mounted Police (Dependants) Pension Fund and all pensions, annuities and other benefits were to be charged against that account.

In 1948, the Act was amended extensively. Three new parts, namely, Parts V, VI and VII were added. For persons appointed to the Force after March 1, 1949, and for members of the Force on that date who elected to become contributors under Part V, the provisions of Part V replaced the pension arrangements formerly provided under Parts II, III and IV. However, constables who were members of the Force on March 1, 1949, and who were not contributors under Part IV on that date, retained their right of election to become subject to Part IV, provided that

- (a) they had continuous service on the Force from October 1, 1934 or before, to the date of such election, and
- (b) they did not elect at any time to become contributors under Part V.

The 1948 amendments also affected Part IV of the Act as respects financial implications. Under Part IV as originally enacted, it was specifically provided that the charge on the Consolidated Revenue Fund should not at any time exceed the available balance in the Royal Canadian Mounted Police (Dependants) Pension Fund. It was also provided that if, as a result of an actuarial valuation, the amount in this Fund were found to be less than the amount required to make adequate provision for prospective benefits, the Governor in Council might decrease the benefits, or any of them, or increase the contributions, as might appear equitable and expedient, so as to re-establish the solvency of the Fund. It is thus apparent that it was originally intended that the Fund should be entirely self-supporting and that there should be no charges to the Treasury other than the expenses of administration and, periodically, interest at 4% on the balance in the Fund. At the time of the 1948 amendments, which established new pension arrangements under Part V and closed Part IV as respects new members of the Force, it was evidently considered that provision should be made

for the government to assume responsibility for any deficit that might appear in the Fund. Accordingly, Part IV was amended to provide that, if a deficit were revealed by an actuarial valuation, the Governor in Council might direct that there be credited to the fund out of any unappropriated moneys in the Consolidated Revenue Fund such amount as might appear equitable and expedient so as to re-establish the solvency of the Fund.

In 1959, two new Acts, namely, the Royal Canadian Mounted Police Superannuation Act and the Royal Canadian Mounted Police Pension Continuation Act were passed to provide for all pension arrangements in respect of the Royal Canadian Mounted Police. The pensions formerly provided for widows and orphans under Part IV of the Royal Canadian Mounted Police Act are now provided for under Part IV of the Royal Canadian Mounted Police Pension Continuation Act.

In 1975, Part IV of the Royal Canadian Mounted Police Pension Continuation Act was amended in two respects. Prior to this amendment, benefits to children of a deceased contributor were payable until age 18 in the case of a son, and to age 21 in the case of a daughter. As a result of the amendment, benefits also became payable to age 21 to sons, and became further payable between ages 21 and 25 to an unmarried son or daughter in full-time attendance at a school or university, having been in such attendance substantially without interruption since attaining age 21 or since the contributor died, whichever occurred later.

At the same time subsection 55(3) of the Act, which had provided that interest would be added to the balance in the Fund from time to time at the rate of 4% per annum, was amended to provide that such interest would be calculated at such rate and in such manner as the Governor in Council by regulation prescribed.

In 1989, Part IV was amended to eliminate the requirement that a son or daughter in full-time attendance at a school or university be unmarried in order to receive survivor benefits. Also eliminated was the provision for actuarially reducing the pension of a widow who was more than 20 years younger than her husband at the date of his death.

APPENDIX 4

Summary of Part IV Provisions

A. Contributions and Interest

1. Member Contributions

(i) Current Service - In order to purchase benefits based on their current service, members made contributions as follows:

(i) 5% of pay, and

(ii) supplementary amounts in accordance with the scale set out in present subsection 47(3) of the Act.

The last current service contributions were made on March 31, 1978 when the last Part IV member retired from active duty with the Force.

(ii) Past Service - A new Part IV member had the right to elect to make contributions, either in a lump sum or by equivalent* instalments, to purchase basic death benefits, on the basis of his rate of pay at date of election, in respect of any period of his eligible past service. In like manner, on promotion to or within the ranks of non-commissioned officers, a member had the right to elect to partially or fully upgrade the accrued basic death benefits on the basis of his rate of pay in this new rank.

Because all Part IV members have now retired from the Force, no new past service elections can be made. However, many of the Part IV members are still making instalment payments in respect of previous elections.

2. Government Contributions

Other than to credit interest on the Fund, the Government of Canada has made no contributions to Part IV. However there is a remote possibility of future contributions pursuant to the Government's obligations as guarantor of the solvency of the Fund.

3. Interest Credits

In its role as custodian of the Fund, the Government credits it with interest from time to time.

* Based on the mortality rates of the Canadian Men Table, CM(5), and interest at 4% per annum.

Since 1975 the rate at which interest has been credited to the Fund has been the same as that used for the various superannuation accounts. This rate is calculated every three months as if the amounts available for investment in each quarter for those superannuation accounts had been invested in 20-year bonds having a yield equivalent to the average yield on Government of Canada bonds with 20 or more years to maturity outstanding at that time.

For the quarter ending March 31, 1990, the average rate at which interest was credited was 2.642%, per quarter. This is equivalent to an annual rate of approximately 11.0%.

B. Basic Death Benefits

The following benefits, as applicable, are payable on the death of a member who has made the scheduled contributions and has not withdrawn any part of them from the Fund.

1) Widows' Pensions

The surviving widow of a member is entitled to a pension equal to 1.5% of the member's final pay multiplied by his years of credited service. The pension is payable for life with a guarantee that the total payments shall be no less than the member's contributions.

2) Eligible Children's Annuities

An annuity, not exceeding 7% of the member's final pay, is payable to each surviving child eligible in accordance with the provisions of the Act at that time. If there is no surviving widow or if the widow dies before the child's annuity ceases, the amount of the annuity is doubled.

3) Lump Sum Benefits

If a member is not survived by a widow, a lump sum payment is made to the dependants and relatives of the member who are, in the opinion of the relevant Minister, best entitled to share the benefit. The lump sum amount is equal to the value* of a pension to a hypothetical surviving widow 20 years older than the member at his death, but not exceeding 75 years of age.

4) Benefit Limitations

Under certain circumstances, the basic death benefits payable to a surviving widow are smaller than those normally available. This type of limitation can occur when a member marries after age 60; in that case, the value* of the

* Based on the female mortality rates of Rutherford's Annuity Tables and interest at 4% per annum.

pension to his widow cannot exceed the lump sum payable if he were not survived by a widow. A similar limitation applies to a member who marries before age 60 after termination of service and dies within five years after such marriage, unless the member satisfies the Commissioner he is in sound health.

Benefit limitations are also applied to ensure that the aggregate of the basic pension and annuities payable to the widow and children, respectively, of a member does not exceed 70% of his final rate of pay and allowances.

C. Dividends on Death Benefits

Subsection 57(1) of the Act provides that if the Fund is substantially in excess of the amount required to make adequate provision for the prospective payments to be made out of it, the Governor in Council may by order increase the benefits provided under Part IV, or any of them, in such manner as may appear equitable and expedient. To date, these benefit increases have taken the form of proportionate dividends applied to all basic death benefits, both accrued and prospective.

It should be noted that the previously described limitations on benefits are applicable only to the basic death benefits. Effectively, there are no limitations to the dividends which may be declared.

D. Withdrawal Benefits

1. On Retirement as a Constable

On termination of service as a constable either by promotion to commissioned rank or by discharge from the Force, a member could leave his contributions in the Fund and continue to pay any instalments of contributions payable in respect of an election to contribute either for prior service or upon promotion. Under such circumstances, the member and his dependants continued to be eligible for the benefits purchased by his contributions. However, if such a member withdrew his contributions, his rights in the Fund and those of his dependants thereupon ceased.

2. After Retirement as a Constable

A former constable who did not elect to withdraw his contributions from the Fund upon retirement retains the right to do so at any time thereafter; however, his rights under Part IV and those of his dependents shall cease upon such election.

APPENDIX 5

Previous Surplus Distributions

Commencing with the valuation in 1949, sufficient surplus was revealed by each valuation for the actuary to consider it advisable to recommend that some of it be distributed by way of an increase in benefits.

The recommendations and their implementation have been as follows:

<u>Valuation as at March 31</u>	<u>Recommendation as an increase in basic current and prospective benefits purchased by contributors</u>	<u>Implementation</u>
1949	5% of benefits accrued prior to April 1, 1949	P.C. 123/1833 dated April 12, 1951
1954	additional 5% of benefits accrued prior to April 1, 1949, plus 10% of benefits accrued between April 1, 1949 and March 31, 1954	P.C. 1955-8/1033 dated July 7, 1955
1959	10% of benefits accrued between April 1, 1954 and March 31, 1959	P.C. 1960-8/367 dated March 24, 1960
1964	additional 5% of benefits accrued prior to April 1, 1959, plus 15% of benefits accrued between April 1, 1959 and March 31, 1964	P.C. 1965-7/2303 dated December 29, 1965
1969	additional 15% of benefits accrued prior to April 1, 1964, plus 30% of benefits accrued between April 1, 1964 and March 31, 1969	T.B. 700054 dated October 1, 1970
1972	additional 10% of benefits accrued prior to April 1, 1969, plus 40% of benefits accrued between April 1, 1969 and March 31, 1972	T.B. 720862 dated July 12, 1973
1974	additional 10% of benefits accrued prior to April 1, 1972, plus 50% of benefits accrued between April 1, 1972 and March 31, 1974	T.B. 737531 dated July 10, 1975

<u>Valuation as at March 31</u>	<u>Recommendation as an increase in basic current and prospective benefits purchased by contributors</u>	<u>Implementation</u>
1976 (Interim)	additional 50% of benefits accrued prior to April 1, 1974, plus 100% of benefits accrued between April 1, 1974 and March 31, 1976	T.B. 742727 dated April 15, 1976
1976 (Final)	additional 20% of benefits accrued prior to April 1, 1976	T.B. 751700 dated August 24, 1977
1978	additional 30% of benefits accrued prior to April 1, 1976 plus 150% of benefits accrued between April 1, 1976 and March 31, 1978	T.B. 767185 dated November 1, 1979
1980	additional 30% of accrued benefits	T.B. 779418 dated October 8, 1981
1982	additional 20% of accrued benefits	T.B. 792014 dated February 2, 1984
1984	additional 35% of accrued benefits retroactive to January 1, 1984, and an additional 15% of accrued benefits retroactive to January 1, 1985	T.B. 801121 dated February 20, 1986
1986	additional 30% of accrued benefits retroactive to April 1, 1986, an additional 15% of accrued benefits retroactive to April 1, 1987, and an additional 15% of accrued benefits effective as of April 1, 1988	T.B. 805358 dated April 30, 1987
1988	additional 20% of accrued benefits retroactive to April 1, 1989, and an additional 20% of accrued benefits effective as of April 1, 1990	T.B. 810868 dated April 6, 1989

It may be noted that for purposes of increases in benefits arising from distributions of surplus as at and from the March 31, 1980 valuation, "accrued benefits" means all current and prospective benefits purchased by contributions made or deemed to have been made prior to April 1, 1978. No current or prospective benefits have been purchased by contributions made or deemed to have been made since that date.

APPENDIX 6

Rates of Mortality for Members and Widows/Spouses

<u>Age</u>	<u>Members</u>	<u>Widows/Spouses</u>	<u>Age</u>	<u>Members</u>	<u>Widows/Spouses</u>
45	.00349	.00184	75	.05663	.02875
46	.00388	.00203	76	.06164	.03186
47	.00431	.00222	77	.06714	.03552
48	.00480	.00245	78	.07308	.03963
49	.00532	.00270	79	.07943	.04418
50	.00588	.00297	80	.08623	.04924
51	.00651	.00326	81	.09361	.05487
52	.00719	.00357	82	.10150	.06118
53	.00794	.00390	83	.11003	.06808
54	.00875	.00425	84	.11906	.07572
55	.00961	.00464	85	.12865	.08406
56	.01056	.00504	86	.13886	.09317
57	.01161	.00551	87	.14988	.10317
58	.01274	.00599	88	.16145	.11397
59	.01395	.00649	89	.17375	.12562
60	.01525	.00706	90	.18680	.13818
61	.01669	.00767	91	.20047	.15165
62	.01828	.00840	92	.21510	.16627
63	.02004	.00921	93	.22109	.17198
64	.02193	.01007	94	.21822	.16866
65	.02398	.01104	95	.22081	.17105
66	.02623	.01211	96	.24346	.19495
67	.02865	.01332	97	.30049	.25473
68	.03123	.01463	98	.41247	.37345
69	.03397	.01602	99	.56942	.54102
70	.03694	.01755	100	.74275	.72398
71	.04018	.01932	101	.90141	.88798
72	.04382	.02136	102	1.00000	1.00000
73	.04780	.02359			
74	.05204	.02604			