Bureau du surintendant des institutions financières Canada

ice of the Chief Actuary Bureau de l'actuaire en chef



As at 31 March 2025 Office of the Chief Actuary





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1 Executive summary

1.1 Purpose of report

In accordance with section 15 of the *Government Annuities Improvement Act* ("the Improvement Act") an actuarial valuation was conducted as at 31 March 2025 for purposes of determining the actuarial liabilities and financial position of the Government Annuities Account ("the Account"). Section 15 of the Improvement Act also states that any surplus or deficit emerging as a result of the actuarial valuation shall be reported and, in the case of a surplus, credited to the Federal Government's Consolidated Revenue Fund (CRF) and charged to the Account or, in the case of a deficit, charged to the Federal Government's CRF and credited to the Account.

The document is intended solely for the above purposes. It was prepared to meet those specific objectives and may not be suitable for any other purposes prior to obtaining approval from the OCA.

Please contact us for any questions regarding the proper use of this document.

1.2 Data, method and assumptions

Data on current retirees, beneficiaries, deferred members, premiums and benefit payments were provided by Employment and Social Development Canada (ESDC) and Service Canada. The Government Annuities Branch located in Bathurst administers the annuities. The data are from a reliable source. We have performed summary tests on the data, and have found that they are accurate, reliable and sufficient for the purposes of the valuation. A description of contract types and a summary of the data are shown in Appendix A and Appendix B of this report. The actuarial liabilities are the present value of expected future benefits, determined in accordance with accepted actuarial practice and statutory valuation assumptions. Subsection 3(4) of the Government Annuities Regulations ("the Regulations") states that the actuarial liability is to be determined using an interest rate of 7% per annum and the mortality rates of the Annuity Table for 1983, as modified by Projection Scale G.

1.3 Results

Tables 1 and 2 below summarize the results of the actuarial valuation as at 31 March 2025.

Table 1	Financial results as at 31 (\$)	L March 2025
Assets		46,262,964
Liabilities		45,175,613
Surplus (c	leficit)	1,087,351

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Table 2 Membership as at 31 March 2025			
		Average annual	
	Count	pension (\$)	
Vested members	11,441	714	
Deferred members	16	1,775	
Total	11,457	715	

1.4 Conclusion

The surplus of \$1,087,351 is credited to the Federal Government's CRF and charged to the Account. The next valuation will be performed as at 31 March 2026.

2 Introduction

The Canadian *Government Annuities Act* of 1908 was one of the earliest significant pieces of social legislation in Canada. Its purpose was to encourage Canadians to prepare financially for their retirement. Government Annuities were purchased either by individuals or by employers as pension plans for their employees.

By the 1960's, other social benefit plans, such as Old Age Security (OAS) and the Canada Pension Plan were introduced and began gaining importance in providing Canadians with basic retirement income. The government's recognition that retired Canadians could now be served by other social security programs as well as the private sector brought about the decision to disband the Annuities sales force. In 1975, an Act of Parliament formally ended the sale of Government Annuities. Employers, however, could register new employees under group contracts until 1979. The Government Annuities are not sponsored by the Government — meaning the Government has no fiduciary liability. Its responsibilities are limited to provide and secure benefits in accordance with each contract's provisions.

The Annuities Branch continues to administer contracts under payment and those due to become payable, on behalf of clients from across Canada and around the world. The Account is not subject to any federal or provincial pension legislation; it is only subject to the *Government Annuities Act*, the Improvement Act and the Regulations. The assets and liabilities are shown in the Public Accounts of Canada. The assets are notional and are not subject to any investment policy or performance goals and objectives.

The Office of the Chief Actuary (OCA), Office of the Superintendent of Financial Institutions Canada (OSFI), has the mandate of performing the annual actuarial valuation of the Account as of 31 March 2025. The purpose of the valuation is to establish the Account's liabilities, notional assets, and financial position, based on the statutory valuation assumptions.

3 Data

3.1 Data required

Since the actuarial valuation determines both the assets and the liabilities, full details on the members as well as on the cash flows that occurred within the year are needed.

3.2 Member data

Basic data on pensioners, beneficiaries and deferred members are provided by ESDC and Service Canada.

The required data reports are VY4741 for vested members (pensioners) and GY5642 for deferred members (members with deferred rights).

These reports show the member data required to establish the liabilities: certificate number, maturity date, member, spouse and beneficiaries' gender and dates of birth, annual pension amounts, and form of pension.

3.2.1 Notes on VY4741 vested data

Additional pension amounts data are required from Service Canada concerning the continuing pensions for joint and survivor contracts with percentages other than 50% or 100%, as well as for reducing annuities. VY4741 data does not show the accurate continuing pension amounts for annuities of type 29, 37, and 70-79.

Moreover, manual additions must be done, as the VY4741 report excludes certain members due to internal validation controls at Bathurst. The data related to this limited number of members were extracted from the VY5141 report. There were 23 such members as at 31 March 2025.

3.2.2 Notes on GY5642 deferred data

Pursuant to the Improvement Act which granted annual accrual of contributions accounts at 7% from 1 April 1975, the following table shows the multipliers that must be applied to the annual original pension amounts.

Table 3	Table 3 Multipliers for deferred pension amounts			
	Original			
Premiun	n series	interest rate	Multiplier	
4		4.0%	1.22	
5		3.0%	1.32	
6	ò	3.5%	1.29	
7	7	4.0%	1.22	
8	3	5.0%	1.14	

These multipliers reflect the increase between the original interest rate applicable on the contracts and 7%. As the deferred members data only show the pension amounts prior to the enhancements, these multipliers are used to update the annual pensions.

It can be seen that the methodology used to derive these multipliers granted higher increases to contracts with lower interest rates, and vice-versa. The objective sought at the time was to distribute the increases as equitably as possible.

A reconciliation of pension amounts and membership status with last year's membership has been performed. A detailed summary of membership data is shown in the Appendix B of this report.

3.3 Asset data

Income consists of premiums received, funds reclaimed from the CRF for previously untraceable annuitants, notional earned interest and any transfer needed to cover the actuarial deficit. Payments and other charges represent matured annuities, commuted value of death benefits, premium refunds and withdrawals, and transfers to the CRF of actuarial surpluses and unclaimed annuities related to untraceable annuitants.

All reports used to determine the value of assets are provided by ESDC.

A list showing the names and short descriptions of the required reports is given in Appendix C of this report.

The data used are considered to be sufficient and reliable for the purposes of the actuarial valuation.

4 Methods and assumptions

4.1 Liability valuation method

The actuarial liabilities are associated with two groups of members: vested and deferred. The vested group consists of the participants for whom the pensions are in payment as at 31 March 2025. The deferred group consists of members for whom payment of pensions will start in the future. The liabilities are the actuarial present value of future pension payments, the result of discounting the future expected benefits with interest and post-retirement mortality.

4.2 Assumptions

The interest and post-retirement mortality assumptions are statutory, as stated in section 15 of the Improvement Act and subsection 3(4) of the Regulations. Namely, the liabilities must be based on a rate of interest of 7% per annum and on the mortality rates of the Annuity Table for 1983, as modified by Projection Scale G, published in Transactions of the Society of Actuaries, Vol. XXXV (1983), at pages 882 and 883.

Accordingly, the 1983 individual annuity mortality table (IAM83) is used for individual contracts and the 1983 group annuity mortality table (GAM83) is used for group contracts. Both tables are sex-distinct, and are projected for 15 years with Projection Scale G. Furthermore, for consistency with the methodology used to develop these mortality tables, the liabilities were calculated based on the annuitants' attained age (age last) at the valuation date.

Extracts from these mortality tables as well as associated life expectancies can be found in Appendix D of this report.

4.3 Asset valuation method

Since section 14 of the *Government Annuities Act* states that the monies received or paid under this act form part of the CRF, the assets are notional. Each year, any difference with the liabilities calculated is either credited (in the case of a surplus) or charged (in the case of a deficit) to the CRF, with a corresponding charge or credit to the Account. Following these adjustments, the assets value as at 1 April 2024 is equal to the 31 March 2024 liabilities. The assets value as at 31 March 2025 prior to any charge or credit to the CRF is obtained by adding interest at 7% on the 1 April 2024 value and adjusting for cash inflows and outflows also at 7% annual interest rate.

5 Results

5.1 Balance sheet

The following table presents a summary of the balance sheet of the Account for the 2025 and 2024 fiscal years.

Table 4 Balance sheet (\$)		
	Fiscal year 2024 – 2025	Fiscal year 2023 – 2024
Assets as at 1 April	51,756,737	58,866,929
Income		
Interest to 31 March	3,289,718	3,744,448
Premiums for deferred annuities	-	-
Unclaimed annuities recovered from CRF	<u>54,105</u>	<u>4,872</u>
Total income	3,343,823	3,749,320
Payments and other charges Payments to vested members:		
Vested regular annuity payments	8,661,103ª	9,804,405 ^b
Vested commuted values	80,751	21,213
Total payments to vested members:	8,741,854	9,825,618
Monies refunded	2,306	1,304
Values transferred to CRF (vested & deferred)	93,436	<u>106,331</u>
Total payments and other charges	8,837,596	9,933,253
Income less payments and other charges	(5,493,773)	(6,183,933)
Assets as at 31 March	46,262,964	52,682,996
Surplus charged to the account and credited to the CRF	(1,087,351)	(926,259)
Net assets as at 31 March	45,175,613	51,756,737
Actuarial liabilities as at 31 March	45,175,613	51,756,737

a. Includes annuity and retroactive payments totalling \$18,286 for members recovered from the CRF in fiscal year 2024-2025.

b. Includes annuity and retroactive payments totalling \$3,723 for members recovered from the CRF in fiscal year 2023-2024.

5.2 Calculation of interest

Tables 5, 6 and 7 below outline the calculation of the notional 7% annual interest credited to the Account for the 2025 and 2024 fiscal years.

Table 5	Calculation of interest for vested members (\$)		
		Fiscal year 2024 – 2025	Fiscal year 2023 – 2024
Prescribed	assets as at 1 April of prior year	3,583,972	4,076,713
Maturities		17,419	12,996
CRF recove	eries	311	266
Annuity pa	ayments	(332,092)	(375,626)
Commuted	d values	(1,631)	(624)
Transfers t	o CRF	-	-
Total inter	est for vested members	3,267,979	3,713,725

Table 6 Calculation of interest for deferr (\$)	Calculation of interest for deferred members (\$)		
	Fiscal year	Fiscal year	
	2024 – 2025	2023 – 2024	
Prescribed assets as at 1 April of prior year	38,999	43,972	
Premiums	-	-	
CRF recoveries	257	-	
Maturities	(17,419)	(12,996)	
Refunds	(98)	(253)	
Transfers to CRF	-	-	
Total interest for deferred members	21,739	30,723	

Table 7	Calculation of total interest (\$)		
		Fiscal year	Fiscal year
		2024 – 2025	2023 – 2024
Interest fo	or vested members	3,267,979	3,713,725
Interest fo	or deferred members	21,739	30,723
Total inte	rest	3,289,718	3,744,448

5.3 Development of actuarial liabilities

Tables 8, 9 and 10 below outline the Account's actuarial liabilities by members' category as at 31 March of 2025 and 2024.

Table 8 Development of vested member actuarial liabilities				
		Fiscal year 2024 – 2025	Fiscal year 2023 – 2024	
	Contract type	(\$)	(\$)	
Males, ordinary life	10 – 16	20,549,471	24,104,820	
Females, ordinary life	10 – 16	13,728,387	15,301,682	
Males, guaranteed	21 – 29	5,327,018	5,896,391	
Females, guaranteed	21 – 29	3,265,134	3,535,833	
Last survivor	30 – 37	1,609,600	1,974,120	
Reducing at OAS	70 – 79	233,150	247,140	
Annuities certain	50, 80	101,180	108,674	
Temporary annuities	60	3,422	5,134	
Suspended payments		9,664	25,812	
Vested member actuarial liability 44,827,026 51,199,606				

Table 9 Development of deferred member actuarial liabilities				
	Contract type	Fiscal year 2024 – 2025 (\$)	Fiscal year 2023 – 2024 (\$)	
Ordinary life	10	58,348	54,531	
Males, guaranteed	21 – 24	178,383	319,625	
Females, guaranteed	21 – 24	25,824	115,740	
Refunds in process		14,091	-	
Suspense accounts	Account 721	71,941	67,235	
Deferred member actuar	ial liability	348,587	557,131	

Table 10	Development of actuarial liabilities (\$)		
		Fiscal year 2024 – 2025	Fiscal year 2023 – 2024
Vested me	embers	44,827,026	51,199,606
Deferred r	members	348,587	557,131
Total actu	arial liabilities	45,175,613	51,756,737

6 Experience

6.1 Analysis of experience

As there are no new contracts purchased under the *Government Annuities Act*, the main source of experience gains or losses is the mortality. It includes changes in expected future payments due to the death or survival of annuitants and the difference between actual and expected benefit payments during the year.

The table below presents a reconciliation of the surplus between 31 March 2024 and 31 March 2025.

Table 11 Gains (losses) (\$)	
Surplus as at 31 March 2024	-
Premiums paid with interest	-
Vested members mortality	1,041,661
Deferred members – retirements, mortality, refunds	17,382
Transfers from CRF and other data changes	28,308
Surplus as at 31 March 2025	1,087,351

6.2 Alternative assumptions for purposes of the account's financial statements, prepared in accordance with Section 4600 of Part IV of the CPA Canada Handbook – Accounting

6.2.1 Mortality

Following an external audit of the Account as at 31 March 2014, ESDC management asked the OCA to conduct a mortality experience study and to include the amount of the actuarial liabilities under experience-adjusted mortality rates in future Actuarial Reports on the Government Annuities.

6.2.2 Discount rate

To promote greater comparability with other public service pension plans that are part of the Public Account of Canada, the liabilities shown in the Account's financial statements is measured using a different discount rate than the prescribed interest rate of 7%. The alternative rate is established based on a yield curve approach. This yield curve is determined by reference to market yields at the end of the reporting period on Government of Canada Bonds and treasury bills.

The OCA has determined that the liabilities as at 31 March 2025 under experience-adjusted mortality rates and the alternative discount rate is \$53.5 million, which is \$8.3 million higher than under the prescribed assumptions. More details are presented in Appendix E.

7 Actuarial opinion

In our opinion, considering that this report was prepared pursuant to the *Government Annuities Act* and the *Government Annuities Improvement Act*:

- the data on which this report is based are sufficient and reliable for the purposes of this report;
- the assumptions used comply with legislative requirements;
- the methods employed are appropriate for the purposes of this report; and
- as at 31 March 2025, there is a surplus of \$1,087,351 which is credited to the Federal Government's Consolidated Revenue Fund and charged to the Government Annuities Account.

This report has been prepared, and our opinion given, in accordance with accepted actuarial practice in Canada. As of the date of the signing of this report, we have not learned of any events that would have a material impact on the results presented in this report as at 31 March 2025.

Marie-Pier Bernier Fellow of the Canadian Institute of Actuaries Office of the Chief Actuary, OSFI Luc Léger Associate of the Canadian Institute of Actuaries Office of the Chief Actuary, OSFI

Ottawa, Canada 25 July 2025

Appendix - A Contract types

The following describes the annuities provisions as specified by the contracts:

Ordinary life: At maturity, this annuity is payable for as long as the annuitant lives, but at death the annuity ceases immediately and there are no death benefits.

Guaranteed: The annuity under this contract is payable for life but it is guaranteed for a minimum period of 5, 10, 15 or 20 years.

Contingent survivor: This annuity is based on two lives. The annuity is payable to the principal annuitant for as long as he or she lives. At death, the annuity is payable to the survivor until his or her death.

Joint and last survivor: This contract differs from the Contingent Survivor contract in that the annuity instalments are payable to both parties. After the death of one partner, the annuity is made payable to the survivor as long as he or she lives.

Reducing option: The reducing option is an arrangement whereby the level of the annuity purchased is paid at an increased amount from age 50 (or later) to age 65. At age 65, the annuity decreases by the amount of Old Age Security in effect at the date of maturity. The annuity is payable for life, with death benefits available for the duration of the guaranteed period, if there is one.

The following describes the contract types:

Single life – no guarantee (10 – 16)

- 10. Ordinary
- 11. Guarantee expired: on valuation change of 21 24
- 12. From last or contingent survivor: 30, 35, 36, 37
- 13. From last survivor guarantee expired: on first death of 31
- 14. From reducing ordinary: on reduction of 70
- 15. From reducing guaranteed: on reduction of 79, on valuation change of 29 or from 71-74 where reduction and end of guarantee coincide
- 16. From reducing survivor: 36, 37

Single life with guarantee (21 – 29)

- 21. Guaranteed 5 years
- 22. Guaranteed 10 years
- 23. Guaranteed 15 years
- 24. Guaranteed 20 years
- 29. From 71-74 after reduction still within guarantee

Joint lives – no guarantee (30 – 37)

- 30. Ordinary Last Survivor (100%)
- 31. Last Survivor guarantee expired (100%)
- 35. Contingent Survivor (100%)
- 36. Contingent Survivor reducing by one half at death of Principal Annuitant (50%)
- 37. Contingent Survivor reducing by any other amount at death of Principal Annuitant

Annuities certain (50 & 80)

- 50. Certain level amount (Includes from 80 after reduction)
- 80. Certain, reducing

Temporary annuities (60)

60. Temporary

Reducing annuities (70 - 79)

- 70. Ordinary, reducing
- 71. Guaranteed 5 years, reducing
- 72. Guaranteed 10 years, reducing
- 73. Guaranteed 15 years, reducing
- 74. Guaranteed 20 years, reducing
- 79. From 71-74, guarantee expired before reduction

Appendix - B Membership data

B.1 Vested members at 31 March 2025

Tables 12 to 17 summarize the vested member data as at 31 March 2025. Each table presents the average annual pension, member count and average age for both genders for each vested contract type. Additional information is included in certain tables when it is relevant for the particular contract type.

Table 12	Contract types 10-16: Vested ordinary life				
Age		Males	Females	Total	
	Average annual pension (\$)	1,099	877	991	
60-69	Number	34	32	66	
	Average age (years)	67.0	66.3	66.6	
'	Average annual pension (\$)	1,031	881	952	
70-79	Number	432	471	903	
	Average age (years)	76.2	75.8	76.0	
'	Average annual pension (\$)	678	572	639	
80-89	Number	2,941	1,696	4,637	
	Average age (years)	85.6	85.1	85.5	
'	Average annual pension (\$)	688	563	640	
90-100	Number	2,813	1,745	4,558	
	Average age (years)	93.3	93.9	93.5	
	Average annual pension (\$)	733	494	609	
100 +	Number	87	93	180	
	Average age (years)	102.0	102.6	102.3	
Total average annual pension (\$)		709	605	668	
Total number		6,307	4,037	10,344	
Total average age (years)		88.5	88.1	88.4	

Table 13	Contract types 21-29: Vested guaranteed				
Age		Males	Females	Total	
	Average annual pension (\$)	2,291	2,091	2,193	
EO CO3	Number	68	65	133	
50-69ª	Average age (years)	66.6	66.9	66.8	
	Average guarantee (years)	9.2	7.8	8.5	
	Average annual pension (\$)	1,710	1,465	1,627	
70.70	Number	240	121	361	
70-79	Average age (years)	74.7	74.3	74.5	
	Average guarantee (years)	5.3	5.1	5.2	
	Average annual pension (\$)	1,293	1,035	1,209	
90.90	Number	27	13	40	
80-89	Average age (years)	81.3	81.3	81.3	
	Average guarantee (years)	3.2	3.1	3.2	
Total average annual pension (\$)		1,794	1,641	1,737	
Total number		335	199	534	
Average age (years)		73.6	72.3	73.1	
Average guarantee (years) 5.9 5.8				5.9	

a. The age range 50 to 59 contains 2 individuals and was combined with the age range 60 to 69 to alleviate privacy concerns.

Table 14 Contract types 30-37: Vested joint & survivor					
	Males	Females	Total		
Total Average annual pension (\$)	504	234	496		
Total number	518	15	533		
Average age (years)	88.5	87.2	88.5		
Average spouse age (years)	84.9	86.2	85.0		
Average continuing percentage	73%	70%	73%		

Table 15 Contract types 50 & 80: Vested certain	n
	Total
Average annual pension (\$)	1,207
Number	21
Average certain period (years)	4.8

Table 16 Contract type 60: Vested temporary	
	Total
Average annual pension (\$)	674
Number	3
Average age (years)	63.0
Average period (years)	2.0

Table 17 Contract types 70-79: Vested reducing					
	Males	Females	Total		
Average annual pension (\$)	4,028	6,126	5,077		
Number	3	3	6		
Average reduced annual pension (\$)	2,212	3,507	2,860		
Average age (years)	64.3	59.7	62.0		

B.2 Deferred members at 31 March 2025

Tables 18 and 19 summarize the deferred member data as at 31 March 2025. Each table presents the average annual pension, member count and average age for both genders for each deferred contract type. Table 19 also includes the average guarantee period.

Table 18 Contract types 10: Deferred	Contract types 10: Deferred ordinary life		
	Total		
Average annual pension (\$)	3,202		
Number	2		
Average age (years)	70.0		

Table 19 Contract types 21-24: Deferred guaranteed					
	Males	Females	Total		
Average annual pension (\$)	2,196	448	1,572		
Number	9	5	14		
Average age (years)	64.9	64.8	64.9		
Average guarantee (years)	16.1	16.0	16.1		

B.3 Membership reconciliation

Table 20 Vested membership reconciliation	n						
Contract types	10-16	21-29	30-37	50&80	60	70-79	Total
Count as at 31 March 2024	11,833	612	643	30	3	6	13,127
Maturities	-	8	-	-	-	-	8
Transfers from/to other contract types	171	(76)	(98)	3	-	-	-
Deaths or expired annuities ^a	(1,647)	(10)	(12)	(11)	-	-	(1,680)
Net CRF transfers ^b	(13)	-	-	(1)	-	-	(14)
Count as at 31 March 2025	10,344	534	533	21	3	6	11,441

a. The 1,680 Deaths or expired annuities are composed of 1,153 group certificates and 527 individual contracts.

b. The 14 net CRF transfers are 9 individual and 6 group contracts transferred to the CRF, and 1 group contract transferred from the CRF.

Table 21 Deferred membership reconciliation	
Count as at 31 March 2024	28
Maturities	(8)
Deaths and refunds	(3)
Net CRF transfers	(1)
Count as at 31 March 2025	16

Appendix - C Sources of data

C.1 Reports required

The following are the reports used in order to perform the Government Annuities Account valuation. The main reports are provided by ESDC and Service Canada.

C.2 Membership data

VY4741P1: Basic Vested Data

VY5141: Vested Annuitants to be added manually (Records to be completed using report VY4742P1)

GY5642: Basic Deferred Data

Service Canada also provides accurate pension amounts for plans 16, 37, 70-79, and 29, and additional data for plans 50 and 80. This data consists of pension amounts, reduced pension amounts where applicable, date of reduction and date of final payment. Even though the total actuarial liability is taken directly from VY5141 for plans 50 and 80, it must be individually calculated for purposes of gains and losses analysis.

C.3 Asset data

VM3942: Vested benefit payments and maturities by period

GY5646, GM4741, and GM4742: Data related to refunds

Premiums paid are provided by the Annuity Accounting Division of ESDC.

Benefit payments are provided by the Annuity Accounting Division of ESDC.

The monthly VM3942 reports are used to reconcile the Annuity Accounting Division's benefit payments. Ultimately, the Annuity Accounting Division's figures are used for balance sheet purposes. The monthly GM4741 and GM4742 reports are used for group and individual contracts.

C.4 Other data

ESDC also provides balances for suspense accounts (GY5644 and GR3442), refunds in progress (GY5941) and suspended payments (VY5443).

Appendix - D Mortality tables

D.1 Projection of mortality

The mortality assumption is statutory, as stated in section 15 of the Improvement Act and subsection 3(4) of the Regulations. Mortality rates are to follow the Annuity table for 1983, as modified by Projection scale G published in Transactions of the Society of Actuaries, Vol. XXXV (1983), at pages 882 and 883. SOR/97-495, s. 2.

Accordingly, the IAM83 table is used for individual contracts and the GAM83 table is used for group contracts. Both tables are used on sex-distinct basis and are projected for 15 years with Projection scale G. Furthermore, for consistency with the methodology used to develop these mortality tables, the liabilities were calculated based on the annuitants' attained age (age last) at the valuation date.

The following table shows the mortality rates as well as Projection scale G for selected attained ages.

Table 22 Mortality rates										
	GAM83	original	IAM83	original	Projectio	n scale G	GAM83 p	orojected	IAM83 p	rojected
Age	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
10	0.000293	0.000096	0.000382	0.000141	0.007500	0.012000	0.000262	0.000080	0.000341	0.000118
15	0.000325	0.000140	0.000435	0.000188	0.002200	0.007000	0.000314	0.000126	0.000421	0.000169
20	0.000377	0.000189	0.000505	0.000260	0.001400	0.005000	0.000369	0.000175	0.000494	0.000241
25	0.000464	0.000253	0.000622	0.000349	0.001000	0.006500	0.000457	0.000229	0.000613	0.000316
30	0.000607	0.000342	0.000759	0.000441	0.004900	0.010500	0.000564	0.000292	0.000705	0.000376
35	0.000860	0.000476	0.000917	0.000545	0.015000	0.018500	0.000686	0.000360	0.000731	0.000412
40	0.001238	0.000665	0.001341	0.000742	0.020000	0.022500	0.000914	0.000473	0.000990	0.000527
45	0.002183	0.001010	0.002399	0.001122	0.018500	0.021000	0.001650	0.000735	0.001813	0.000816
50	0.003909	0.001647	0.004057	0.001830	0.017500	0.020000	0.003000	0.001216	0.003113	0.001352
55	0.006131	0.002541	0.005994	0.002891	0.016000	0.018500	0.004813	0.001920	0.004706	0.002185
60	0.009158	0.004241	0.008338	0.004467	0.015000	0.017500	0.007300	0.003254	0.006647	0.003428
65	0.015592	0.007064	0.012851	0.007336	0.015000	0.017500	0.012429	0.005420	0.010244	0.005629
70	0.027530	0.012385	0.021371	0.011697	0.013500	0.017500	0.022452	0.009504	0.017429	0.008976
75	0.044597	0.023992	0.035046	0.020127	0.012500	0.016000	0.036929	0.018836	0.029020	0.015802
80	0.074070	0.042945	0.057026	0.036395	0.012500	0.015000	0.061334	0.034234	0.047220	0.029013
85	0.114836	0.069918	0.090987	0.065518	0.012500	0.015000	0.095090	0.055736	0.075342	0.052228
90	0.166307	0.111750	0.134887	0.113605	0.011000	0.013500	0.140882	0.091139	0.114265	0.092652
95	0.234086	0.182419	0.191214	0.174228	0.010000	0.012500	0.201328	0.151052	0.164455	0.144269
100	0.319185	0.295187	0.270906	0.239215	0.004000	0.005000	0.300561	0.273806	0.255099	0.221888
105	0.469531	0.487816	0.405278	0.353414	0.000000	0.000000	0.469531	0.487816	0.405278	0.353414
110	1.000000	1.000000	0.634814	0.584462	0.000000	0.000000	1.000000	1.000000	0.634814	0.584462

D.2 Life expectancies

The following table shows life expectancies under the above-stated mortality assumption for selected attained ages.

Table 23	Life expectancies (years)	S		
Age	Group males	Group females	Individual males	Individual females
15	65.4	71.8	67.1	72.2
20	60.5	66.8	62.2	67.3
25	55.6	61.9	57.4	62.4
30	50.7	57.0	52.5	57.5
35	45.9	52.1	47.7	52.6
40	41.0	47.2	42.9	47.7
45	36.2	42.3	38.1	42.8
50	31.6	37.5	33.5	38.0
55	27.1	32.7	29.1	33.3
60	22.8	28.1	24.8	28.7
65	18.7	23.6	20.7	24.3
70	15.0	19.3	16.9	20.0
75	11.8	15.3	13.5	16.0
80	9.1	11.9	10.5	12.4
85	7.0	9.1	8.1	9.3
90	5.3	6.6	6.2	6.9
95	4.0	4.6	4.6	5.1
100	2.8	2.9	3.2	3.6
105	1.9	1.9	2.2	2.5
110	1.0	1.0	1.5	1.6

Appendix - E Alternative mortality and discount rate assumptions

E.1 Mortality rates

The experience-adjusted mortality rates are based on the Canada Pension Plan retirement beneficiaries' mortality assumptions, as developed for the 31st Actuarial Report on the Canada Pension Plan as at 31 December 2021. At the last valuation, the same mortality rates were used.

E.2 Discount rates

The annual alternative discount rates used to calculate the liabilities are 2.93% as at 31 March 2025 (based on the yield curve as at 31 March 2025) and 3.48% as at 31 March 2024. They are determined using a yield curve approach. Under this approach, the discount rate corresponds to an equivalent flat discount rate based on a yield curve and the projected cash flows. The yield curve is based on market yields at the end of the reporting period on Government of Canada bonds and treasury bills. The Bank of Canada develops and publishes monthly a yield curve for Government of Canada zero-coupon bonds¹.

E.3 Development of actuarial liabilities

Tables 24, 25 and 26 show the development of actuarial liabilities under the experience-adjusted mortality rates and the alternative discount rates.

Table 24 Development of vested member actuarial liabilities (with experience-adjusted mortality and alternative discount rate)					
		Fiscal year	Fiscal year		
		2024 – 2025	2023 – 2024		
	Contract type	(\$)	(\$)		
Males, ordinary life	10 – 16	22,991,455	26,304,532		
Females, ordinary life	10 – 16	15,832,407	17,078,408		
Males, guaranteed	21 – 29	7,276,057	7,732,307		
Females, guaranteed	21 – 29	4,523,952	4,674,603		
Last survivor	30 – 37	1,881,580	2,250,483		
Reducing at OAS	70 – 79	344,392	342,996		
Annuities certain	50, 80	115,540	119,551		
Temporary annuities	60	2,410	4,289		
Suspended payments		9,664	25,812		
Vested member actuarial liab	ility	52,977,457	58,532,981		

¹ The methodology to develop this yield curve is set out on the Bank of Canada's website (http://www.bankofcanada.ca/2004/12/working-paper-2004-48/).

Table 25 Development of deferred member actuarial liabilities (with experience-adjusted mortality and alternative discount rate)					
	Contract type	Fiscal year 2024 – 2025 (\$)	Fiscal year 2023 – 2024 (\$)		
Ordinary life	10	83,483	77,147		
Males, guaranteed	21- 24	301,135	509,382		
Females, guaranteed	21- 24	39,069	170,656		
Refunds in process		14,091	-		
Suspense accounts	Account 721	71,941	67,235		
Deferred member actuarial	liability	509,719	824,420		

Table 26	Development of actuarial liabilities (with experience-adjusted mortality and alternative discount rate) (\$)			
		Fiscal year 2024 – 2025	Fiscal year 2023 – 2024	
Vested to	tal	52,977,457	58,532,981	
Deferred t	total	509,719	824,420	
Total actuarial liabilities		53,487,176	59,357,401	

Tables 27 and 28 provide sample experience-adjusted mortality rates at different ages and for different years.

Table 27	Sample mortalit	y rates – male (expe	rience-adjusted mo	ortality)
Age	2025-26	2035-36	2045-46	2055-56
50	0.002621	0.002359	0.002176	0.002008
55	0.003956	0.003519	0.003245	0.002995
60	0.004933	0.004359	0.004000	0.003686
65	0.010791	0.009581	0.008848	0.008137
70	0.015635	0.013854	0.012774	0.011763
75	0.024747	0.022020	0.020289	0.018733
80	0.042482	0.037862	0.034902	0.032208
85	0.074726	0.065811	0.060667	0.055977
90	0.136206	0.122828	0.115313	0.108356
95	0.234379	0.218339	0.209258	0.200618
100	0.355092	0.338944	0.329818	0.320497
105	0.477026	0.464777	0.458225	0.451903
110	0.592554	0.592930	0.592797	0.592542
115	0.667755	0.667775	0.667948	0.667886
120	1.000000	1.000000	1.000000	1.000000

Table 28	Sample mortali	ty rates – female (ex	perience-adjusted	mortality)
Age	2025-26	2035-36	2045-46	2055-56
50	0.001676	0.001514	0.001396	0.001289
55	0.002507	0.002236	0.002062	0.001903
60	0.002795	0.002492	0.002295	0.002117
65	0.006233	0.005610	0.005175	0.004775
70	0.010201	0.009215	0.008502	0.007848
75	0.016792	0.015293	0.014118	0.013025
80	0.029968	0.027372	0.025264	0.023322
85	0.053947	0.048516	0.044756	0.041327
90	0.101800	0.092409	0.086775	0.081544
95	0.181414	0.169049	0.161981	0.155320
100	0.286828	0.272445	0.264965	0.257397
105	0.402243	0.390347	0.384630	0.379101
110	0.526041	0.526402	0.526238	0.526318
115	0.611935	0.611979	0.612014	0.611996
120	1.000000	1.000000	1.000000	1.000000

The table below presents a reconciliation of the actuarial liability between 31 March 2024 and 31 March 2025.

Table 29	Reconciliation of actuarial liability (with experience-adjusted mortality and alternative discount rates)
	(\$)

(\$)		
	Fiscal year	Fiscal year
	2024 – 2025	2023 - 2024
Liability as at 1 April	59,357,401	68,020,976
Accrued interest	1,899,119	1,909,770
Premiums	-	-
Reclaimed annuities	54,105	4,872
Annuity payments	(8,741,854) ^a	(9,825,618) ^b
Premium refunds and other	(2,306)	(1,304)
Unclaimed annuities	(93,436)	(106,331)
Change in mortality assumption	-	1,017,594
Change in discount rates ^c	1,665,268	(1,492,338)
Experience and data corrections	(651,121)	(170,220)
Liability as at 1 April	53,487,176	59,357,401

a. Includes annuity and retroactive payments totalling \$18,286 for members recovered from the CRF in fiscal year 2024-2025, and vested commuted value payments of \$80,751.

Tables 30, 31 and 32 below outline the calculation of interest for the 2025 and 2024 fiscal years.

Table 30 Calculation of interest for vested members (with experience-adjusted mortality and alternative interest rates) (\$)

	Fiscal year	Fiscal year
	2024 – 2025	2023 – 2024
Experience adjusted liabilities as at 1 April of prior year	2,036,948	2,043,847
Maturities	8,589	5,594
CRF recoveries	156	116
Annuity payments	(165,829)	(164,470)
Commuted values	(818)	(274)
Transfers to CRF	-	-
Total interest for vested members	1,879,046	1,884,813

b. Includes annuity and retroactive payments totalling \$3,723 for members recovered from the CRF in fiscal year 2023-2024, and vested commuted value payments of \$21,213.

c. The discount rate used to calculate liabilities changed from 3.05% in fiscal year 2022-2023 to 3.48% in fiscal year 2023-2024 and 2.93% in fiscal year 2024-2025 based on the yield curve approach.

24,957

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Total interest for deferred members

Table 31 Calculation of interest for deferred members (with experience-adjusted mortality and alternative interest rates) (\$) Fiscal year Fiscal year 2024 - 2025 2023 - 2024 30,793 Experience adjusted liabilities as at 1 April of prior year 28,690 Premiums CRF recoveries 129 Maturities (8,589)(5,594)Refunds (157)(242)Transfers to CRF

20,073

Table 32 Calculation of total interest (with experience-adjusted mortality and alternative interest rates) (\$)					
	Fiscal year	Fiscal year			
	2024 – 2025	2023 – 2024			
Interest for vested members	1,879,046	1,884,813			
Interest for deferred members	20,073	24,957			
Total interest	1,899,119	1,909,770			

Appendix - F Acknowledgements

We would like to thank the staff of The Government Annuities Branch of Employment and Social Development Canada who provided the relevant data used in this report. Without their useful assistance, we would not have been able to produce this report.

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