



LIFE AND ACCIDENT AND HEALTH COMPANIES/FRATERNAL BENEFIT SOCIETIES - ASSOCIATION EDITION - SEPARATE ACCOUNTS

# ANNUAL STATEMENT

FOR THE YEAR ENDED DECEMBER 31, 2023

OF THE CONDITION AND AFFAIRS OF THE SEPARATE ACCOUNTS OF THE

## MML Bay State Life Insurance Company

NAIC Group Code 0435 0435 NAIC Company Code 70416 Employer's ID Number 43-0581430  
(Current) (Prior)

Organized under the Laws of Connecticut, State of Domicile or Port of Entry CT

Country of Domicile United States of America

Type of Separate Accounts Insulated [ X ] Non-Insulated [ ]

Incorporated/Organized 04/01/1935 Commenced Business 07/01/1894

Statutory Home Office 200 Great Pond Drive, Windsor, CT, US 06095  
(Street and Number) (City or Town, State, Country and Zip Code)

Main Administrative Office 1295 State Street  
(Street and Number) Springfield, MA, US 01111 413-788-8411  
(City or Town, State, Country and Zip Code) (Area Code) (Telephone Number)

Mail Address 1295 State Street, Springfield, MA, US 01111  
(Street and Number or P.O. Box) (City or Town, State, Country and Zip Code)

Primary Location of Books and Records 1295 State Street  
(Street and Number) Springfield, MA, US 01111 413-788-8411  
(City or Town, State, Country and Zip Code) (Area Code) (Telephone Number)

Internet Website Address www.massmutual.com

Statutory Statement Contact Yin Wang, 617-695-4071  
(Name) (Area Code) (Telephone Number)  
YWang67@massmutual.com, 413-226-4086  
(E-mail Address) (FAX Number)

### OFFICERS

President and Chief Executive Officer Roger William Crandall Treasurer Julieta Giselle Sinisgalli  
Secretary Akintokunbo Akinbajo Appointed Actuary Vy Quoc Ho

### OTHER

Elizabeth Ward Chicares, Executive Vice President and Chief Financial Officer Paul Anthony LaPiana #, Executive Vice President Eric William Partlan #, Executive Vice President  
Dominic Lusean Blue #, Executive Vice President

### DIRECTORS OR TRUSTEES

Roger William Crandall - Chairman Paul Anthony LaPiana # Elizabeth Ward Chicares  
Michael James O'Connor

State of Massachusetts SS  
County of Hampden

The officers of this reporting entity being duly sworn, each depose and say that they are the described officers of said reporting entity, and that on the reporting period stated above, all of the herein described assets were the absolute property of the said reporting entity, free and clear from any liens or claims thereon, except as herein stated, and that this statement, together with related exhibits, schedules and explanations therein contained, annexed or referred to, is a full and true statement of all the assets and liabilities and of the condition and affairs of the said reporting entity as of the reporting period stated above, and of its income and deductions therefrom for the period ended, and have been completed in accordance with the NAIC Annual Statement Instructions and Accounting Practices and Procedures manual except to the extent that: (1) state law may differ; or, (2) that state rules or regulations require differences in reporting not related to accounting practices and procedures, according to the best of their information, knowledge and belief, respectively. Furthermore, the scope of this attestation by the described officers also includes the related corresponding electronic filing with the NAIC, when required, that is an exact copy (except for formatting differences due to electronic filing) of the enclosed statement. The electronic filing may be requested by various regulators in lieu of or in addition to the enclosed statement.

Roger William Crandall Akintokunbo Akinbajo Julieta Giselle Sinisgalli  
President and Chief Executive Officer Secretary Treasurer

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_  
a. Is this an original filing? ..... Yes [ X ] No [ ]  
b. If no,  
1. State the amendment number.....  
2. Date filed .....  
3. Number of pages attached.....

ANNUAL STATEMENT FOR THE YEAR 2023 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company

**ASSETS**

	Current Year			Prior Year
	1 General Account Basis	2 Fair Value Basis	3 Total (Cols. 1 + 2)	4 Total
1. Bonds (Schedule D).....	1,185,211,691	1,951,947,485	3,137,159,176	3,041,855,048
2. Stocks (Schedule D):				
2.1 Preferred stocks .....				
2.2 Common stocks .....		1,150,595,037	1,150,595,037	1,014,094,845
3. Mortgage loans on real estate (Schedule B) .....	6,929,844		6,929,844	7,668,464
4. Real estate (Schedule A):				
4.1 Properties held for the production of income (less \$ ..... encumbrances) .....				
4.2 Properties held for sale (less \$ ..... encumbrances) .....				
5. Cash (\$ ..... 1,267,405 Schedule E - Part 1), and cash equivalents (\$ ..... 107,690,154 , Schedule E - Part 2) .....	30,527,552	78,430,007	108,957,559	171,468,431
6. Short-term investments (Schedule DA) .....		46,412,664	46,412,664	25,211,180
7. Derivatives (Schedule DB) .....	72,141	200,466,346	200,538,487	278,113,964
8. Other invested assets (Schedule BA) .....	2,029,012	43,711	2,072,723	621,665
9. Securities lending reinvested collateral assets (Schedule DL) .....				
10. Aggregate write-ins for invested assets .....				
11. Subtotals, cash and invested assets (Lines 1 to 10) .....	1,224,770,240	3,427,895,250	4,652,665,490	4,539,033,597
12. Investment income due and accrued .....	8,567,773	5,904,568	14,472,341	12,655,589
13. Receivables for securities .....	306,526	5,016,518	5,323,044	18,194,627
14. Net adjustment in assets and liabilities due to foreign exchange rates .....				
15. Aggregate write-ins for other than invested assets.....				
16. Total (Lines 11 to 15)	1,233,644,539	3,438,816,336	4,672,460,875	4,569,883,813
<b>DETAILS OF WRITE-INS</b>				
1001. ....				
1002. ....				
1003. ....				
1098. Summary of remaining write-ins for Line 10 from overflow page .....				
1099. Totals (Lines 1001 thru 1003 plus 1098)(Line 10 above)				
1501. ....				
1502. ....				
1503. ....				
1598. Summary of remaining write-ins for Line 15 from overflow page .....				
1599. Totals (Lines 1501 thru 1503 plus 1598)(Line 15 above)				

ANNUAL STATEMENT FOR THE YEAR 2023 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company

**LIABILITIES AND SURPLUS**

	Current Year			Prior Year
	1 General Account Basis	2 Fair Value Basis	3 Total (Cols. 1 + 2)	4 Total
1. Aggregate reserve for life, annuity and accident and health contracts (Exhibit 3, Line 9999999, Col. 2) .....	1,232,271,945	3,419,652,491	4,651,924,436	4,555,454,064
2. Liability for deposit-type contracts (Exhibit 4, Line 9, Col. 1) .....				
3. Interest Maintenance Reserve .....	254,393		254,393	473,211
4. Charges for investment management, administration and contract guarantees due or accrued .....	1,051,454	334,251	1,385,705	685,368
5. Investment expenses due or accrued (Exhibit 1, Line 24) .....				
6. Investment taxes, licenses and fees due or accrued, excluding federal income taxes (Exhibit 2, Line 8) .....				
7. Federal and foreign income taxes due or accrued (excluding deferred taxes) .....				
8. Reserve for future federal income taxes .....				
9. Unearned investment income .....				
10. Other transfers to general account due or accrued (net) (including \$ ..... 284,850 accrued expense allowances recognized in reserves).....	(737,827)	6,291,074	5,553,247	(5,320,289)
11. Remittances and items not allocated .....	31,034	3,909,482	3,940,516	100,677
12. Derivatives .....	284,779		284,779	561,621
13. Payable for securities .....	488,761	8,306,657	8,795,418	17,710,102
14. Payable for securities lending .....				
15. Net adjustment in assets and liabilities due to foreign exchange rates .....				
16. Aggregate write-ins for liabilities .....		322,381	322,381	219,059
17. Total liabilities (including \$ ..... 6,938,952 due or accrued net transfers to or (from) the general account) .....	1,233,644,539	3,438,816,336	4,672,460,875	4,569,883,813
18. Contributed surplus .....				
19. Aggregate write-ins for special surplus funds .....				
20. Unassigned funds .....				
21. Surplus (Lines 18 through 20) .....				
22. Totals	1,233,644,539	3,438,816,336	4,672,460,875	4,569,883,813
<b>DETAILS OF WRITE-INS</b>				
1601. Claims in course of settlement .....		316,795	316,795	213,062
1602. Annuitant mortality fluctuation fund .....		5,586	5,586	5,997
1603. ....				
1698. Summary of remaining write-ins for Line 16 from overflow page .....				
1699. Totals (Lines 1601 thru 1603 plus 1698)(Line 16 above)		322,381	322,381	219,059
1901. ....				
1902. ....				
1903. ....				
1998. Summary of remaining write-ins for Line 19 from overflow page .....				
1999. Totals (Lines 1901 thru 1903 plus 1998)(Line 19 above)				

ANNUAL STATEMENT FOR THE YEAR 2023 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company

**SUMMARY OF OPERATIONS**

	1 Current Year	2 Prior Year
1. Transfers to Separate Accounts:		
1.1 Net premiums and annuity considerations for life and accident and health contracts .....	23,567,735	25,663,243
1.2 Considerations for supplementary contracts with life contingencies .....		
1.3 Aggregate write-ins for other transfers to Separate Accounts .....		
1.4 Totals (Lines 1.1 to 1.3) .....	23,567,735	25,663,243
2. Transfers on account of deposit-type contracts (including \$ ..... deposits less \$ ..... withdrawals) .....		
3. Net investment income and capital gains and losses .....	238,600,666	(227,327,716)
4. Aggregate write-ins for other income .....		
5. Totals (Lines 1.4 to 4) .....	262,168,401	(201,664,473)
<b>DEDUCT:</b>		
6. Transfers from the Separate Account on account of contract benefits:		
6.1 Death benefits .....	57,627,177	96,407,697
6.2 Matured endowments .....		
6.3 Annuity benefits .....	525,842	1,297,390
6.4 Payments on supplementary contracts with life contingencies .....		
6.5 Accident and health benefits .....		
6.6 Surrender benefits and withdrawals for life contracts .....	29,976,430	24,764,183
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits .....		
7. Transfers on account of policy loans .....	6,710,456	8,729,394
8. Net transfer of reserves from or (to) Separate Accounts .....	(8,584,656)	(8,066,442)
9. Other transfers from the Separate Accounts:		
9.1 Federal and foreign income taxes incurred .....		
9.2 Change in expense allowances recognized in reserves .....	6,039	(130,101)
9.3 Aggregate write-ins for other transfers from Separate Accounts .....		
10. Subtotals (Lines 6.1 to 9.3) .....	86,261,288	123,002,121
11. Fees associated with charges for investment management, administration and contract guarantees .....	79,333,419	73,450,776
12. Increase in aggregate reserve for life and accident and health contracts .....	96,470,372	(397,486,143)
13. Increase in liability for deposit-type contracts .....		
14. Increase in reserve for future federal income taxes .....		
15. Aggregate write-ins for reserves and funds .....	103,322	(631,228)
16. Totals (Lines 10 to 15) .....	262,168,401	(201,664,473)
17. Net gain from operations (including \$ ..... unrealized capital gains) (Line 5 minus Line 16) .....		
<b>SURPLUS ACCOUNT</b>		
18. Surplus, December 31, prior year .....		
19. Net gain from operations (Line 17) .....		
20. Surplus contributed or (withdrawn) during year .....		
21. Change in reserve on account of change in valuation basis, (increase) or decrease .....		
22. Transfer from Separate Accounts of the change in expense allowances recognized in Line 21 .....		
23. Aggregate write-ins for gains and losses in surplus .....		
24. Surplus, December 31, current year (Page 3, Line 21)		
<b>DETAILS OF WRITE-INS</b>		
01.301. ....		
01.302. ....		
01.303. ....		
01.398. Summary of remaining write-ins for Line 1.3 from overflow page .....		
01.399. Totals (Lines 01.301 thru 01.303 plus 01.398)(Line 1.3 above)		
0401. ....		
0402. ....		
0403. ....		
0498. Summary of remaining write-ins for Line 4 from overflow page .....		
0499. Totals (Lines 0401 thru 0403 plus 0498)(Line 4 above)		
06.701. ....		
06.702. ....		
06.703. ....		
06.798. Summary of remaining write-ins for Line 6.7 from overflow page .....		
06.799. Totals (Lines 06.701 thru 06.703 plus 06.798)(Line 6.7 above)		
09.301. ....		
09.302. ....		
09.303. ....		
09.398. Summary of remaining write-ins for Line 9.3 from overflow page .....		
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398)(Line 9.3 above)		
1501. Claims in course of settlement .....	103,733	(627,855)
1502. Change in annuitant mortality fluctuation fund .....	(411)	(3,373)
1503. ....		
1598. Summary of remaining write-ins for Line 15 from overflow page .....		
1599. Totals (Lines 1501 thru 1503 plus 1598)(Line 15 above)	103,322	(631,228)
2301. ....		
2302. ....		
2303. ....		
2398. Summary of remaining write-ins for Line 23 from overflow page .....		
2399. Totals (Lines 2301 thru 2303 plus 2398)(Line 23 above)		

**ANNUAL STATEMENT FOR THE YEAR 2023 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company**  
**ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - SUMMARY**

	1	2	3	4	5	6	7
	Total	Individual Life	Group Life	Individual Annuities	Group Annuities	Accident and Health	Other Lines of Business
1. Transfers to Separate Accounts:							
1.1 Net premiums and annuity considerations for life and accident and health contracts .....	23,567,735	23,562,935		4,800			
1.2 Considerations for supplementary contracts with life contingencies .....		XXX	XXX			XXX	
1.3 Aggregate write-ins for other transfers to Separate Accounts .....							
1.4 Totals (Lines 1.1 to 1.3).....	23,567,735	23,562,935		4,800			
2. Transfers on account of deposit-type contracts (including \$ ..... deposits less \$ ..... withdrawals) .....							
3. Net investment income and capital gains and losses .....	238,600,666	205,668,745	26,807,562	6,124,359			
4. Aggregate write-ins for other income .....							
5. Totals (Lines 1.4 to 4) .....	262,168,401	229,231,680	26,807,562	6,129,159			
DEDUCT:							
6. Transfers from the Separate Account on account of contract benefits:							
6.1 Death benefits .....	57,627,177	42,062,899	15,564,278			XXX	
6.2 Matured endowments .....						XXX	
6.3 Annuity benefits .....	525,842	XXX	XXX	525,842		XXX	
6.4 Payments on supplementary contracts with life contingencies .....		XXX	XXX			XXX	
6.5 Accident and health benefits .....		XXX	XXX	XXX	XXX		
6.6 Surrender benefits and withdrawals for life contracts .....	29,976,430	27,596,748		2,379,682		XXX	
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits .....							
7. Transfers on account of policy loans .....	6,710,456	6,710,456				XXX	
8. Net transfer of reserves from or (to) Separate Accounts .....	(8,584,656)	1,106,035	(9,698,309)	7,618			
9. Other transfers from the Separate Accounts:							
9.1 Federal and foreign income taxes incurred .....						XXX	
9.2 Change in expense allowances recognized in reserves .....	6,039	7,519		(1,480)		XXX	
9.3 Aggregate write-ins for other transfers from Separate Accounts .....							
10. Subtotals (Lines 6.1 to 9.3) .....	86,261,288	77,483,657	5,865,969	2,911,662			
11. Fees associated with charges for investment management, administration and contract guarantees .....	79,333,419	69,351,566	9,565,841	416,012			
12. Increase in aggregate reserve for life and accident and health contracts .....	96,470,372	82,292,724	11,375,752	2,801,896			
13. Increase in liability for deposit-type contracts .....						XXX	
14. Increase in reserve for future federal income taxes .....							
15. Aggregate write-ins for reserves and funds .....	103,322	103,733		(411)			
16. Totals (Lines 10 to 15) .....	262,168,401	229,231,680	26,807,562	6,129,159			
17. Net gain from operations (including \$ ..... unrealized capital gains) (Line 5 minus Line 16) .....							
18. Policies/certificates in force end of year .....	27,535	24,112	2,992	431			
<b>DETAILS OF WRITE-INS</b>							
01.301. ....							
01.302. ....							
01.303. ....							
01.398. Summary of remaining write-ins for Line 1.3 from overflow page .....							
01.399. Totals (Lines 01.301 thru 01.303 plus 01.398) (Line 1.3 above) .....							
0401. ....							
0402. ....							
0403. ....							
0498. Summary of remaining write-ins for Line 4 from overflow page .....							
0499. Totals (Lines 0401 thru 0403 plus 0498) (Line 4 above) .....							
06.701. ....							
06.702. ....							
06.703. ....							
06.798. Summary of remaining write-ins for Line 6.7 from overflow page .....							
06.799. Totals (Lines 06.701 thru 06.703 plus 06.798) (Line 6.7 above) .....							
09.301. ....							
09.302. ....							
09.303. ....							
09.398. Summary of remaining write-ins for Line 9.3 from overflow page .....							
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398) (Line 9.3 above) .....							
1501. Claims in course of settlement .....	103,733	103,733					
1502. Change in annuitant mortality fluctuation fund .....	(411)			(411)			
1503. ....							
1598. Summary of remaining write-ins for Line 15 from overflow page .....							
1599. Totals (Lines 1501 thru 1503 plus 1598) (Line 15 above) .....	103,322	103,733		(411)			

**ANNUAL STATEMENT FOR THE YEAR 2023 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company**  
**ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - INDIVIDUAL LIFE INSURANCE (b)**

	1	2	3	4	5	6	7	8	9	10	11
	Total	Industrial Life	Whole Life	Term Life	Indexed Life	Universal Life	Universal Life with Secondary Guarantees	Variable Life	Variable Universal Life	Credit Life (N/A Fraternal)	Other Individual Life
<b>1. Transfers to Separate Accounts:</b>											
1.1 Net premiums for life contracts (a)	23,562,935	XXX						145,465	23,417,470	XXX	
1.2 Considerations for supplementary contracts with life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
1.3 Aggregate write-ins for other transfers to Separate Accounts		XXX							XXX	XXX	
1.4 Totals (Lines 1.1 to 1.3)	23,562,935	XXX						145,465	23,417,470	XXX	
<b>2. Transfers on account of deposit-type contracts (including \$ deposits less \$ withdrawals)</b>											
3. Net investment income and capital gains and losses	205,668,745	XXX						1,282,072	204,386,673	XXX	
4. Aggregate write-ins for other income		XXX							XXX	XXX	
5. Totals (Lines 1.4 to 4)	229,231,680	XXX						1,427,537	227,804,143	XXX	
<b>DEDUCT:</b>											
<b>6. Transfers from the Separate Account on account of contract benefits:</b>											
6.1 Death benefits	42,062,899	XXX							42,062,899	XXX	
6.2 Matured endowments		XXX							XXX	XXX	
6.3 Annuity benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.4 Payments on supplementary contracts with life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.5 Accident and health benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.6 Surrender benefits and withdrawals for life contracts	27,596,748	XXX						259,286	27,337,462	XXX	
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits		XXX							XXX	XXX	
7. Transfers on account of policy loans	6,710,456	XXX						11,676	6,698,780	XXX	
8. Net transfer of reserves from or (to) Separate Accounts	1,106,035	XXX						2,428	1,103,607	XXX	
<b>9. Other transfers from the Separate Accounts:</b>											
9.1 Federal and foreign income taxes incurred		XXX								XXX	
9.2 Change in expense allowances recognized in reserves	7,519	XXX							7,519	XXX	
9.3 Aggregate write-ins for other transfers from Separate Accounts		XXX							XXX	XXX	
10. Subtotals (Lines 6.1 to 9.3)	77,483,657	XXX						273,390	77,210,267	XXX	
11. Fees associated with charges for investment management, administration and contract guarantees	69,351,566	XXX						405,560	68,946,006	XXX	
12. Increase in aggregate reserve for life and accident and health contracts	82,292,724	XXX						748,587	81,544,137	XXX	
13. Increase in liability for deposit-type contracts		XXX							XXX	XXX	
14. Increase in reserve for future federal income taxes		XXX							XXX	XXX	
15. Aggregate write-ins for reserves and funds	103,733	XXX							103,733	XXX	
16. Totals (Lines 10 to 15)	229,231,680	XXX						1,427,537	227,804,143	XXX	
17. Net gain from operations (including \$ unrealized capital gains) (Line 5 minus Line 16)		XXX								XXX	
18. Policies/certificates in force end of year	24,112	XXX						136	23,976	XXX	
<b>DETAILS OF WRITE-INS</b>											
01.301.		XXX								XXX	
01.302.		XXX								XXX	
01.303.		XXX								XXX	
01.398. Summary of remaining write-ins for Line 1.3 from overflow page		XXX								XXX	
01.399. Totals (Lines 01.301 thru 01.303 plus 01.398) (Line 1.3 above)		XXX								XXX	
0401.		XXX								XXX	
0402.		XXX								XXX	
0403.		XXX								XXX	
0498. Summary of remaining write-ins for Line 4 from overflow page		XXX								XXX	
0499. Totals (Lines 0401 thru 0403 plus 0498) (Line 4 above)		XXX								XXX	
06.701.		XXX								XXX	
06.702.		XXX								XXX	
06.703.		XXX								XXX	
06.798. Summary of remaining write-ins for Line 6.7 from overflow page		XXX								XXX	
06.799. Totals (Lines 06.701 thru 06.703 plus 06.798) (Line 6.7 above)		XXX								XXX	
09.301.		XXX								XXX	
09.302.		XXX								XXX	
09.303.		XXX								XXX	
09.398. Summary of remaining write-ins for Line 9.3 from overflow page		XXX								XXX	
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398) (Line 9.3 above)		XXX								XXX	
1501. Claims in course of settlement	103,733	XXX							103,733	XXX	
1502.		XXX								XXX	
1503.		XXX								XXX	
1598. Summary of remaining write-ins for Line 15 from overflow page		XXX								XXX	
1599. Totals (Lines 1501 thru 1503 plus 1598) (Line 15 above)	103,733	XXX							103,733	XXX	

(a) Include premium amounts for preneed plans included in Line 1

(b) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected.

**ANNUAL STATEMENT FOR THE YEAR 2023 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company**  
**ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - GROUP LIFE INSURANCE (c)**  
**(N/A Fraternal)**

	1	2	3	4	5	6	7	8
	Total	Whole Life	Term Life	Universal Life	Variable Life	Variable Universal Life	Credit Life	Other Group Life (a)
1. Transfers to Separate Accounts:								
1.1 Net premiums for life contracts (b)	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
1.2 Considerations for supplementary contracts with life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
1.3 Aggregate write-ins for other transfers to Separate Accounts	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
1.4 Totals (Lines 1.1 to 1.3)	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2. Transfers on account of deposit-type contracts (including \$ deposits less \$ withdrawals)							XXX	
3. Net investment income and capital gains and losses	26,807,562					26,807,562	XXX	
4. Aggregate write-ins for other income							XXX	
5. Totals (Lines 1.4 to 4)	26,807,562					26,807,562	XXX	
DEDUCT:								
6. Transfers from the Separate Account on account of contract benefits:								
6.1 Death benefits	15,564,278					15,564,278	XXX	
6.2 Matured endowments							XXX	
6.3 Annuity benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.4 Payments on supplementary contracts with life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.5 Accident and health benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.6 Surrender benefits and withdrawals for life contracts							XXX	
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits							XXX	
7. Transfers on account of policy loans							XXX	
8. Net transfer of reserves from or (to) Separate Accounts	(9,698,309)					(9,698,309)	XXX	
9. Other transfers from the Separate Accounts:								
9.1 Federal and foreign income taxes incurred							XXX	
9.2 Change in expense allowances recognized in reserves							XXX	
9.3 Aggregate write-ins for other transfers from Separate Accounts							XXX	
10. Subtotals (Lines 6.1 to 9.3)	5,865,969					5,865,969	XXX	
11. Fees associated with charges for investment management, administration and contract guarantees	9,565,841					9,565,841	XXX	
12. Increase in aggregate reserve for life and accident and health contracts	11,375,752					11,375,752	XXX	
13. Increase in liability for deposit-type contracts							XXX	
14. Increase in reserve for future federal income taxes							XXX	
15. Aggregate write-ins for reserves and funds							XXX	
16. Totals (Lines 10 to 15)	26,807,562					26,807,562	XXX	
17. Net gain from operations (including \$ unrealized capital gains) (Line 5 minus Line 16)							XXX	
18. Policies/certificates in force end of year	2,992					2,992	XXX	
<b>DETAILS OF WRITE-INS</b>								
01.301. ....							XXX	
01.302. ....							XXX	
01.303. ....							XXX	
01.398. Summary of remaining write-ins for Line 1.3 from overflow page							XXX	
01.399. Totals (Lines 01.301 thru 01.303 plus 01.398) (Line 1.3 above)							XXX	
0401. ....							XXX	
0402. ....							XXX	
0403. ....							XXX	
0498. Summary of remaining write-ins for Line 4 from overflow page							XXX	
0499. Totals (Lines 0401 thru 0403 plus 0498) (Line 4 above)							XXX	
06.701. ....							XXX	
06.702. ....							XXX	
06.703. ....							XXX	
06.798. Summary of remaining write-ins for Line 6.7 from overflow page							XXX	
06.799. Totals (Lines 06.701 thru 06.703 plus 06.798) (Line 6.7 above)							XXX	
09.301. ....							XXX	
09.302. ....							XXX	
09.303. ....							XXX	
09.398. Summary of remaining write-ins for Line 9.3 from overflow page							XXX	
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398) (Line 9.3 above)							XXX	
1501. ....							XXX	
1502. ....							XXX	
1503. ....							XXX	
1598. Summary of remaining write-ins for Line 15 from overflow page							XXX	
1599. Totals (Lines 1501 thru 1503 plus 1598) (Line 15 above)							XXX	

(a) Includes the following amounts for FEGLI/SGLI: Line 1, Line 10, Line 16, Line 23, Line 24  
(b) Include premium amounts for preneed plans included in Line 1  
(c) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected.

**ANNUAL STATEMENT FOR THE YEAR 2023 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company**  
**ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - INDIVIDUAL ANNUITIES (a)**

	1	Deferred			6 Life Contingent Payout (Immediate and Annuityizations)	7 Other Annuities
		2	3	4		
	Total	Fixed Annuities	Indexed Annuities	Variable Annuities With Guarantees	Variable Annuities Without Guarantees	
1. Transfers to Separate Accounts:						
1.1 Net annuity considerations for annuity contracts .....	4,800	XXX	XXX	4,800	XXX	XXX
1.2 Considerations for supplementary contracts with life contingencies .....						
1.3 Aggregate write-ins for other transfers to Separate Accounts .....						
1.4 Totals (Lines 1.1 to 1.3) .....	4,800			4,800		
2. Transfers on account of deposit-type contracts (including \$ .....						
withdrawals) .....						
3. Net investment income and capital gains and losses .....	6,124,359			6,124,359		
4. Aggregate write-ins for other income .....						
5. Totals (Lines 1.4 to 4) .....	6,129,159			6,129,159		
DEDUCT:						
6. Transfers from the Separate Account on account of contract benefits:						
6.1 Death benefits .....						
6.2 Matured endowments .....						
6.3 Annuity benefits .....	525,842			525,842		
6.4 Payments on supplementary contracts with life contingencies .....		XXX	XXX	XXX	XXX	XXX
6.5 Accident and health benefits .....	XXX	XXX	XXX	XXX	XXX	XXX
6.6 Surrender benefits and withdrawals for life contracts .....	2,379,682			2,379,682		
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits .....						
7. Transfers on account of policy loans .....						
8. Net transfer of reserves from or (to) Separate Accounts .....	7,618			7,618		
9. Other transfers from the Separate Accounts:						
9.1 Federal and foreign income taxes incurred .....						
9.2 Change in expense allowances recognized in reserves .....	(1,480)			(1,480)		
9.3 Aggregate write-ins for other transfers from Separate Accounts .....						
10. Subtotals (Lines 6.1 to 9.3) .....	2,911,662			2,911,662		
11. Fees associated with charges for investment management, administration and contract guarantees .....	416,012			416,012		
12. Increase in aggregate reserve for life and accident and health contracts .....	2,801,896			2,801,896		
13. Increase in liability for deposit-type contracts .....						
14. Increase in reserve for future federal income taxes .....						
15. Aggregate write-ins for reserves and funds .....	(411)			(411)		
16. Totals (Lines 10 to 15) .....	6,129,159			6,129,159		
17. Net gain from operations (including \$ .....						
unrealized capital gains) (Line 5 minus Line 16)						
18. Policies/certificates in force end of year .....	431			431		
<b>DETAILS OF WRITE-INS</b>						
01.301. ....						
01.302. ....						
01.303. ....						
01.398. Summary of remaining write-ins for Line 1.3 from overflow page .....						
01.399. Totals (Lines 01.301 thru 01.303 plus 01.398) (Line 1.3 above) .....						
0401. ....						
0402. ....						
0403. ....						
0498. Summary of remaining write-ins for Line 4 from overflow page .....						
0499. Totals (Lines 0401 thru 0403 plus 0498) (Line 4 above) .....						
06.701. ....						
06.702. ....						
06.703. ....						
06.798. Summary of remaining write-ins for Line 6.7 from overflow page .....						
06.799. Totals (Lines 06.701 thru 06.703 plus 06.798) (Line 6.7 above) .....						
09.301. ....						
09.302. ....						
09.303. ....						
09.398. Summary of remaining write-ins for Line 9.3 from overflow page .....						
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398) (Line 9.3 above) .....						
1501. Change in annuitant mortality fluctuation fund .....	(411)			(411)		
1502. ....						
1503. ....						
1598. Summary of remaining write-ins for Line 15 from overflow page .....						
1599. Totals (Lines 1501 thru 1503 plus 1598) (Line 15 above) .....	(411)			(411)		

(a) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected.



Analysis of Operations by Lines of Business - Group Annuities

**N O N E**

Analysis of Operations by Lines of Business - Accident and Health

**N O N E**

ANNUAL STATEMENT FOR THE YEAR 2023 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company  
**ANALYSIS OF INCREASE IN RESERVES DURING THE YEAR - INDIVIDUAL LIFE INSURANCE (a)**

	1	2	3	4	5	6	7	8	9	10	11
	Total	Industrial Life	Whole Life	Term Life	Indexed Life	Universal Life	Universal Life With Secondary Guarantees	Variable Life	Variable Universal Life	Credit Life (N/A Fraternal)	Other Individual Life
1. Reserve December 31 of prior year .....	3,306,460,486	XXX						11,129,665	3,295,330,821	XXX	
2. Tabular net premiums and considerations for annuities and supplementary contracts with life contingencies .....	23,562,936	XXX						145,465	23,417,471	XXX	
3. Increase or (decrease) from investment results after provision for federal income taxes .....	205,668,745	XXX						1,282,072	204,386,673	XXX	
4. Tabular less actual reserve released .....		XXX								XXX	
5. Increase in reserve on account of change in valuation basis .....		XXX								XXX	
5.1 Change in excess of VM-20 deterministic/stochastic reserve over net premium reserve .....		XXX								XXX	
6. Other increases (net) .....		XXX								XXX	
7. Totals (Lines 1 to 6) .....	3,535,692,167	XXX						12,557,202	3,523,134,965	XXX	
8. Net transfer of reserves from or (to) Separate Accounts .....	1,106,035	XXX						2,428	1,103,607	XXX	
9. Tabular cost .....	45,899,454	XXX						405,560	45,493,894	XXX	
10. Reserves released by death .....	42,062,900	XXX							42,062,900	XXX	
11. Reserves released by other terminations (net) .....	27,596,748	XXX						259,286	27,337,462	XXX	
12. Transfers on account of annuity and supplementary contract payments involving life contingencies .....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
13. Charges for investment management, administration and contract guarantees .....	23,452,112	XXX							23,452,112	XXX	
14. Aggregate write-ins for other decreases in reserves .....	6,821,708	XXX						11,676	6,810,032	XXX	
15. Total deductions (Lines 8 to 14) .....	146,938,957	XXX						678,950	146,260,007	XXX	
16. Reserve December 31 of current year .....	3,388,753,210	XXX						11,878,252	3,376,874,958	XXX	
<b>Cash Surrender Value and Policy Loans</b>											
17. CSV ending balance December 31, current year .....	3,382,925,311	XXX						7,156,570	3,375,768,741	XXX	
18. Amount available for policy loans based upon Line 17 CSV .....	2,706,340,249	XXX						5,725,256	2,700,614,993	XXX	
<b>DETAILS OF WRITE-INS</b>											
1401. Change in policy loans .....	6,710,456	XXX						11,676	6,698,780	XXX	
1402. Claims in course of settlement .....	103,733	XXX							103,733	XXX	
1403. Change in surrender charge offset .....	7,519	XXX							7,519	XXX	
1498. Summary of remaining write-ins for Line 14 from overflow page .....		XXX								XXX	
1499. TOTALS (Lines 1401 thru 1403 plus 1498) (Line 14 above) .....	6,821,708	XXX						11,676	6,810,032	XXX	

(a) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected. ....

ANNUAL STATEMENT FOR THE YEAR 2023 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company  
**ANALYSIS OF INCREASE IN RESERVES DURING THE YEAR - GROUP LIFE INSURANCE (a)**  
**(N/A Fraternal)**

	1	2	3	4	5	6	7	8
	Total	Whole Life	Term Life	Universal Life	Variable Life	Variable Universal Life	Credit Life	Other Group Life
1. Reserve December 31 of prior year .....	1,220,896,193					1,220,896,193	XXX	
2. Tabular net premiums and considerations .....							XXX	
3. Increase or (decrease) from investment results after provision for federal income taxes .....	26,807,563					26,807,563	XXX	
4. Tabular less actual reserve released .....							XXX	
5. Increase in reserve on account of change in valuation basis .....							XXX	
6. Other increases (net) .....							XXX	
7. Totals (Lines 1 to 6) .....	1,247,703,756					1,247,703,756	XXX	
8. Net transfer of reserves from or (to) Separate Accounts .....	(9,698,308)					(9,698,308)	XXX	
9. Tabular cost .....						XXX	XXX	
10. Reserves released by death .....	15,564,278					15,564,278	XXX	
11. Reserves released by other terminations (net) .....							XXX	
12. Transfers on account of annuity and supplementary contract payments involving life contingencies .....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
13. Charges for investment management, administration and contract guarantees .....	9,565,841					9,565,841	XXX	
14. Aggregate write-ins for other decreases in reserves .....							XXX	
15. Total deductions (Lines 8 to 14) .....	15,431,811					15,431,811	XXX	
16. Reserve December 31 of current year .....	1,232,271,945					1,232,271,945	XXX	
<b>Cash Surrender Value and Policy Loans</b>								
17. CSV ending balance December 31, current year .....	1,226,287,095					1,226,287,095	XXX	
18. Amount available for policy loans based upon line 17 CSV .....	981,029,676					981,029,676	XXX	
<b>DETAILS OF WRITE-INS</b>								
1401. ....							XXX	
1402. ....							XXX	
1403. ....							XXX	
1498. Summary of remaining write-ins for Line 14 from overflow page .....							XXX	
1499. TOTALS (Lines 1401 thru 1403 plus 1498) (Line 14 above) .....							XXX	

(a) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected. ....

ANNUAL STATEMENT FOR THE YEAR 2023 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company  
**ANALYSIS OF INCREASE IN RESERVES DURING THE YEAR - INDIVIDUAL ANNUITIES (a)**

	1 Total	Deferred				6 Life Contingent Payout (Immediate and Annuitizations)	7 Other Annuities
		2 Fixed Annuities	3 Indexed Annuities	4 Variable Annuities With Guarantees	5 Variable Annuities Without Guarantees		
1. Reserve December 31 of prior year .....	28,097,385			28,097,385			
2. Tabular net premiums and considerations .....	4,800			4,800			
3. Increase or (decrease) from investment results after provision for federal income taxes .....	6,124,358			6,124,358			
4. Tabular less actual reserve released .....							
5. Increase in reserve on account of change in valuation basis .....							
6. Other increases (net) .....							
7. Totals (Lines 1 to 6) .....	34,226,543			34,226,543			
8. Net transfer of reserves from or (to) Separate Accounts .....	7,618			7,618			
9. Tabular cost .....							
10. Reserves released by death .....	.XXX	.XXX	.XXX	.XXX	.XXX	.XXX	
11. Reserves released by other terminations (net) .....	2,379,682			2,379,682			
12. Transfers on account of annuity and supplementary contract payments involving life contingencies .....	525,842			525,842			
13. Charges for investment management, administration and contract guarantees .....	416,012			416,012			
14. Aggregate write-ins for other decreases in reserves .....	(1,892)			(1,892)			
15. Total deductions (Lines 8 to 14) .....	3,327,262			3,327,262			
16. Reserve December 31 of current year .....	30,899,281			30,899,281			
<b>Cash Surrender Value and Policy Loans</b>							
17. CSV ending balance December 31, current year .....	30,711,850			30,711,850			
18. Amount available for policy loans based upon line 17 CSV .....							
<b>DETAILS OF WRITE-INS</b>							
1401. Change in annuitant mortality fluctuation fund .....	(411)			(411)			
1402. Change in surrender charge offset .....	(1,481)			(1,481)			
1403. ....							
1498. Summary of remaining write-ins for Line 14 from overflow page .....							
1499. TOTALS (Lines 1401 thru 1403 plus 1498) (Line 14 above) .....	(1,892)			(1,892)			

(a) Indicate if blocks of business in run-off that comprise less than 5% of premiums and less than 5% of reserve and loans liability are aggregated with material blocks of business and which columns are affected. ....

Analysis of Increase in Reserves During the Year - Group Annuities

**N O N E**

Analysis of Reserves During the Year - Accident and Health

**N O N E**

ANNUAL STATEMENT FOR THE YEAR 2023 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company

**EXHIBIT OF NET INVESTMENT INCOME**

	1 Collected During Year	2 Earned During Year
1. U.S. Government bonds	(a) 15,614,764	16,217,813
1.1 Bonds exempt from U.S. tax	(a)	
1.2 Other bonds (unaffiliated)	(a) 83,923,645	85,158,868
1.3 Bonds of affiliates	(a)	
2.1 Preferred stocks (unaffiliated)	(b)	
2.11 Preferred stocks of affiliates	(b)	
2.2 Common stocks (unaffiliated)	81,050,049	81,050,026
2.21 Common stocks of affiliates		
3. Mortgage loans	(c) 60,637	55,749
4. Real estate	(d)	
5. Contract loans		
6. Cash, cash equivalents and short-term investments	(e) 834,411	821,171
7. Derivative instruments	(f) (4,241,590)	(4,241,590)
8. Other invested assets	415,068	411,701
9. Aggregate write-ins for investment income	(605,045)	(605,045)
10. Total gross investment income	177,051,938	178,868,691
11. Investment expenses		(g)
12. Investment taxes, licenses and fees, excluding federal income taxes		(g)
13. Interest expense		(h)
14. Depreciation on real estate and other invested assets		(i)
15. Aggregate write-ins for deductions from investment income		
16. Total deductions (Lines 11 through 15)		
17. Net investment income (Line 10 minus Line 16)		178,868,691
<b>DETAILS OF WRITE-INS</b>		
0901. Amortization of IMR	218,817	218,817
0902. Miscellaneous	(823,863)	(823,863)
0903.		
0998. Summary of remaining write-ins for Line 9 from overflow page		
0999. Totals (Lines 0901 thru 0903 plus 0998) (Line 9, above)	(605,045)	(605,045)
1501.		
1502.		
1503.		
1598. Summary of remaining write-ins for Line 15 from overflow page		
1599. Totals (Lines 1501 thru 1503 plus 1598) (Line 15, above)		

- (a) Includes \$ 2,790,992 accrual of discount less \$ 1,671,789 amortization of premium and less \$ 3,315,358 paid for accrued interest on purchases.
- (b) Includes \$ accrual of discount less \$ amortization of premium and less \$ paid for accrued dividends on purchases.
- (c) Includes \$ 968 accrual of discount less \$ 17,812 amortization of premium and less \$ paid for accrued interest on purchases.
- (d) Includes \$ for company's occupancy of its own buildings; and excludes \$ interest on encumbrances.
- (e) Includes \$ 378,207 accrual of discount less \$ 24 amortization of premium and less \$ paid for accrued interest on purchases.
- (f) Includes \$ accrual of discount less \$ amortization of premium.
- (g) Includes \$ investment expenses and \$ investment taxes, licenses and fees, excluding federal income taxes, attributable to segregated and Separate Accounts.
- (h) Includes \$ interest on surplus notes and \$ interest on capital notes.
- (i) Includes \$ depreciation on real estate and \$ depreciation on other invested assets.

**EXHIBIT OF CAPITAL GAINS (LOSSES)**

	1	2	3	4	5
	Realized Gain (Loss) On Sales or Maturity	Other Realized Adjustments	Total Realized Capital Gain (Loss) (Columns 1 + 2)	Change in Unrealized Capital Gain (Loss)	Change in Unrealized Foreign Exchange Capital Gain (Loss)
1. U.S. Government bonds	(9,322,387)		(9,322,387)	8,187,397	
1.1 Bonds exempt from U.S. tax					
1.2 Other bonds (unaffiliated)	(24,132,448)		(24,132,448)	41,147,236	
1.3 Bonds of affiliates					
2.1 Preferred stocks (unaffiliated)					
2.11 Preferred stocks of affiliates					
2.2 Common stocks (unaffiliated)	6,633,703		6,633,703	110,552,439	
2.21 Common stocks of affiliates					
3. Mortgage loans	(33)		(33)		
4. Real estate					
5. Contract loans					
6. Cash, cash equivalents and short-term investments	4,573,535		4,573,535		
7. Derivative instruments	(571,412)		(571,412)	(77,298,635)	
8. Other invested assets	(22,203)		(22,203)	(15,216)	
9. Aggregate write-ins for capital gains (losses)					
10. Total capital gains (losses)	(22,841,245)		(22,841,245)	82,573,221	
<b>DETAILS OF WRITE-INS</b>					
0901.					
0902.					
0903.					
0998. Summary of remaining write-ins for Line 9 from overflow page					
0999. Totals (Lines 0901 thru 0903 plus 0998) (Line 9, above)					

**EXHIBIT 1 - INVESTMENT EXPENSES**

	1 Amount
1. Rent .....	
2. Salaries and wages .....	
3. Contributions for benefit plans for employees (a) .....	
4. Payments to employees under non-funded benefit plans .....	
5. Other employee welfare .....	
6. Legal fees and expenses .....	
7. Fees of public accountants and consulting actuaries .....	
8. Traveling expenses .....	
9. Postage, express, telegraph and telephone .....	
10. Printing and stationery .....	
11. Cost or depreciation of furniture and equipment .....	
12. Rental of equipment .....	
13. Books and periodicals .....	
14. Bureau and association fees .....	
15. Insurance, except on real estate .....	
16. Miscellaneous losses .....	
17. Collection and bank service charges .....	
18. Sundry general expenses .....	
19. Real estate expenses .....	
20. Investment expenses not included elsewhere .....	
21. Aggregate write-ins for other investment expenses .....	
22. Investment expenses incurred .....	
Reconciliation with Exhibit 5	
23. Investment expenses unpaid December 31, prior year .....	
24. Investment expenses unpaid December 31, current year .....	
25. Investment expenses paid during year (Lines 22 + 23 - 24) (to Exhibit 5, Line 12)	
<b>DETAILS OF WRITE-INS</b>	
2101. ....	
2102. ....	
2103. ....	
2198. Summary of remaining write-ins for Line 21 from overflow page .....	
2199. Totals (Lines 2101 thru 2103 plus 2198) (Line 21 above)	

**NONE**

(a) Includes \$ ..... on account of prior service.

**EXHIBIT 2 - INVESTMENT TAXES, LICENSES AND FEES  
(EXCLUDING FEDERAL INCOME TAXES)**

	1 Amount
1. Real estate taxes .....	
2. State insurance department fees .....	
3. Other state taxes, including \$ ..... for employee benefits .....	
4. U.S. Social Security taxes .....	
5. All other taxes .....	
6. Taxes, licenses and fees incurred .....	
Reconciliation with Exhibit 5	
7. Taxes, licenses and fees unpaid December 31, prior year .....	
8. Taxes, licenses and fees unpaid December 31, current year .....	
9. Taxes, licenses and fees paid during year (Lines 6 + 7 - 8) (to Exhibit 5, Line 13)	

**NONE**

### EXHIBIT 3 - AGGREGATE RESERVE FOR LIFE, ANNUITY AND ACCIDENT AND HEALTH CONTRACTS

1	2	3	4
Description of Valuation Basis	Total <sup>(a)</sup>	Ordinary	Group
0100001. 58 CSO 4.00% Mod CRVM (issued 1983 to 1988) .....	11,878,252	11,878,252	
0100002. 80 CSO 5.50% CRVM (issued 1988 to 1992) .....	195,341,337	195,341,337	
0100003. 80 CSO 5.00% CRVM (issued 1993 to 1994) .....	567,626,089	567,626,089	
0100004. 80 CSO Account Value .....	3,846,179,477	2,613,907,532	1,232,271,945
0199999. Life Insurance: Totals	4,621,025,155	3,388,753,210	1,232,271,945
0200001. Deferred Annuity 4.75%-6.50% CARVM .....	30,713,093	30,713,093	
0200002. Annuity Reserve 4 % VA Valuation 82 .....	186,188	186,188	
0299999. Annuities: Totals	30,899,281	30,899,281	
9999999. Totals (to Page 3, Line 1)	4,651,924,436	3,419,652,491	1,232,271,945

(a) Included in the above table are amounts of deposit-type contracts that originally contained a mortality risk. Amounts of deposit-type contracts that no longer contain a mortality risk in Column 2 are: Life Insurance \$ ..... ; Annuities \$ ..... ; Supplementary Contracts with Life Contingencies \$ ..... ; Accident and Health Contracts \$ ..... ; Miscellaneous Reserves \$ .....

### EXHIBIT 3 - INTERROGATORIES

- 1.1 Has the reporting entity ever issued both participating and non-participating variable life insurance contracts?..... Yes [ ] No [ X ]
- 2.1 Does the reporting entity at present issue both participating and non-participating variable life insurance contracts?..... Yes [ ] No [ X ]
- 2.2 If not, state which kind is issued  
non-participating .....
- 3.1 Is any surrender value promised in excess of the reserve as legally computed? ..... Yes [ ] No [ X ] N/A [ ]
- 3.2 If so, the amount of such excess must be included in surrender values in excess of reserves otherwise required and carried in this schedule. Has this been done? ..... Yes [ ] No [ ] N/A [ X ]  
Attach a statement of methods employed in the valuation of variable life insurance contracts issued at, or subsequently subject to, an extra premium or in the valuation of contracts otherwise issued on lives classified as substandard for the plan of contract issued or on special class lives (including paid-up variable life insurance).

### EXHIBIT 3A - CHANGES IN BASIS OF VALUATION DURING THE YEAR

(Including supplementary contracts set up on a basis other than that used to determine benefits)

1	2	3	4
Description of Valuation Class	Valuation Basis Changed from	Valuation Basis Changed To	Increase in Actuarial Reserve Due to Change
<b>NONE</b>			
9999999 - Totals (Page 6, Line 5, Analysis of Increase in Reserve)			



**EXHIBIT 4 - DEPOSIT TYPE CONTRACTS**

	1	2	3	4	5	6
	Total	Guaranteed Interest Contracts	Annuities Certain	Supplemental Contracts	Dividend Accumulations or Refunds	Premium and Other Deposit Funds
1. Balance at the beginning of the year .....						
2. Deposits received during the year .....						
3. Investment earnings credited to account .....						
4. Other net change in reserves .....						
5. Fees and other charges assessed .....						
6. Surrender charges .....						
7. Net surrender or withdrawal payments .....						
8. Other net transfer to or (from) general account .....						
9. Balance at the end of current year (Lines 1+2+3+4-5-6-7-8)						

**NONE**

ANNUAL STATEMENT FOR THE YEAR 2023 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company

**EXHIBIT 5 - RECONCILIATION OF CASH AND INVESTED ASSETS**

DEVELOPMENT OF INCREASE IN CASH		1 Amount
1. Transfers to Separate Accounts on account of:		
1.1 Net premiums and considerations for annuities and supplementary contracts with life contingencies .....		23,567,735
1.2 Aggregate write-ins for other transfers to Separate Accounts .....		
2. Deposits on deposit-type contract funds and other liabilities without life or disability contingencies .....		
3. Investment income collected .....		177,051,939
4. Consideration on disposal of short-term bonds net of purchases .....		(19,813,405)
5. Consideration on disposal of investments (excluding short-term bonds) .....		864,666,291
6. Aggregate write-ins for other increases in funds from operations .....		
7. Total (Lines 1 to 6) .....		1,045,472,560
8. Cost of investments acquired (excluding short-term bonds) .....		961,759,335
9. Transfers from Separate Accounts on account of contract benefits:		
9.1 Death benefits .....		55,824,599
9.2 Matured endowments .....		
9.3 Annuity benefits .....		525,842
9.4 Supplementary contract benefits with life contingencies .....		
9.5 Accident and health benefits .....		
9.6 Surrender benefits and withdrawals for life contracts .....		29,976,430
9.7 Policy loans (net) .....		6,710,456
9.8 Transfers of reserves (net) .....		(17,647,666)
9.9 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits .....		
10. Other transfers from Separate Accounts:		
10.1 Federal income taxes .....		
10.2 Aggregate write-ins for other transfers from Separate Accounts .....		(3,839,838)
11. Withdrawals on deposit-type contract funds and other liabilities without life or disability contingencies .....		
12. Investment expenses (Exhibit 1, Line 25) .....		
12.1 Fees associated with investment management, administration and contract guarantees .....		78,631,174
13. Investment taxes, licenses and fees, excluding federal income taxes (Exhibit 2, Line 9) .....		
14. Total (Lines 8 to 13) .....		1,111,940,331
15. Funds from operations (Line 7 minus Line 14) .....		(66,467,771)
16. Surplus contributed or (withdrawn) during year .....		
17. Aggregate write-ins for other changes in funds .....		
18. Total funds (includes \$ 130,453,100 net transfers from general account) (Lines 15 to 17) .....		(66,467,771)
19. Increase in payable for investments acquired, net of receivable for investments sold .....		3,956,899
20. Decrease in policy loans .....		
21. Aggregate write-ins for other reconciling items .....		
22. Increase in cash (Line 18 to 21) .....		(62,510,872)
<b>RECONCILIATION BETWEEN YEARS</b>		
23. Cash and invested assets, December 31st of prior year .....		4,539,033,597
24. Increase in cash (Line 22) .....		(62,510,872)
25. Cost of invested assets acquired .....		1,075,652,720
26. Adjusted cost of assets disposed of .....		983,563,717
27. Increase in policy loans .....		
28. Accrual of discount less amortization of premium .....		1,480,542
29. Depreciation on real estate and other invested assets .....		
30. Increase in net unrealized gains .....		82,573,221
31. Aggregate write-ins for other reconciling items .....		
32. Cash and invested assets, December 31st of current year .....		4,652,665,490
<b>DETAILS OF WRITE-INS</b>		
01.201. ....		
01.202. ....		
01.203. ....		
01.298. Summary of remaining write-ins for Line 1.2 from overflow page .....		
01.299. Totals (Lines 01.201 thru 01.203 plus 01.298) (Line 1.2 above) .....		
0601. ....		
0602. ....		
0603. ....		
0698. Summary of remaining write-ins for Line 6 from overflow page .....		
0699. Totals (Lines 0601 thru 0603 plus 0698) (Line 6 above) .....		
09.901. ....		
09.902. ....		
09.903. ....		
09.998. Summary of remaining write-ins for Line 9.9 from overflow page .....		
09.999. Totals (Lines 09.901 thru 09.903 plus 09.998) (Line 09.9 above) .....		
10.201. Change in remittances and items not allocated .....		(3,839,840)
10.202. Miscellaneous .....		2
10.203. ....		
10.298. Summary of remaining write-ins for Line 10.2 from overflow page .....		
10.299. Totals (Lines 10.201 thru 10.203 plus 10.298) (Line 10.2 above) .....		(3,839,838)
1701. ....		
1702. ....		
1703. ....		
1798. Summary of remaining write-ins for Line 17 from overflow page .....		
1799. Totals (Lines 1701 thru 1703 plus 1798) (Line 17 above) .....		
2101. ....		
2102. ....		
2103. ....		
2198. Summary of remaining write-ins for Line 21 from overflow page .....		
2199. Totals (Lines 2101 thru 2103 plus 2198) (Line 21 above) .....		
3101. ....		
3102. ....		
3103. ....		
3198. Summary of remaining write-ins for Line 31 from overflow page .....		
3199. Totals (Lines 3101 thru 3103 plus 3198) (Line 31 above) .....		

**EXHIBIT 6 - GUARANTEED INSURANCE AND ANNUITY PRODUCTS**

	1 Amount	2 Percent of Total
1. Aggregate reserve for life, annuity and accident and health contracts (Included in Exhibit 3):		
1.1 Life insurance .....	1,232,271,945	26.4
1.2 Annuities .....		
1.3 Supplementary contracts with life contingencies .....		
1.4 Accident and health .....		
1.5 Miscellaneous reserves .....		
1.6 Total .....	1,232,271,945	26.4
2. Liability for deposit-type contracts (included in Exhibit 4):		
2.1 Guaranteed interest contracts .....		
2.2 Annuities certain .....		
2.3 Supplemental contracts .....		
2.4 Dividend accumulations or refunds .....		
2.5 Premium and other deposit funds .....		
2.6 Total .....		
3. Other liabilities (included in Page 3, Lines 4, 10, 13 & 14) .....	802,388	0.0
4. Total liabilities associated with guarantees (Lines 1.6 + 2.6 + 3) .....	1,233,074,333	26.4
5. Total liabilities not associated with guarantees .....	3,439,386,542	73.6
6. Total Separate Accounts liabilities (Lines 4 + 5 = Page 3, Line 17)	4,672,460,875	100.0 %

ANNUAL STATEMENT FOR THE YEAR 2023 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company

## GENERAL INTERROGATORIES

**Product Mix**

1.01 Identify the product types in the separate account, quantify the assets associated with those products, indicate if there are any guarantees associated with those products, quantify seed money and quantify other fees and expenses due to the general account. For the products (and related assets) that are not registered with the SEC, identify whether the products are considered private placement variable annuity products or private placement life insurance.

Note: A distinct disaggregated product identifier shall be used for each product and shall be used consistently throughout the interrogatory. Disaggregation of reporting shall be such that each product filing or policy form is separately identified. For example, if a company has 5 different separate group annuities, each annuity shall be separately reported. (Companies may eliminate proprietary information however such elimination will require the use of unique reporting identifiers).

Additional Required Surplus Amounts is defined as additional or permanent surplus that is required to be retained in the separate account in accordance with state law or regulation. These amounts should not include reinvested separate account investment proceeds that have not been allocated to separate account contract holders.

1 Product Identifier	Separate Account Assets		4 Guarantees Associated with the Product Yes/No	5 Seed Money	6 Fees and Expenses Due to the General Account	7 Additional Required Surplus Amounts	Not Registered with SEC		
	2 Registered with SEC	3 Not Registered with SEC					Private Placement Variable Annuity	Private Placement Life Insurance	Other (Not PPVA or PPLI)
1.01A0001 Pension Risk Transfer Group Annuities									
1.01A9999 Total Pension Risk Transfer Group Annuities			XXX						
1.01B0001 All Other Group Annuities									
1.01B9999 Total All Other Group Annuities			XXX						
1.01C0001 Registered Index Linked Annuities Individual Annuities									
1.01C9999 Total Registered Index Linked Annuities Individual Annuities			XXX						
1.01D0001 All Other Individual Annuities Individual Variable Annuity	30,913,106		YES						
1.01D9999 Total All Other Individual Annuities	30,913,106		XXX						
1.01E0001 Life Insurance Individual Variable Universal Life - Bank-owned Life Insurance - Guaranteed	775,473,186		YES						
Corporate-owned Life Insurance		1,233,644,539	YES		1,440,580				1,233,644,539
Stable Value Bank-owned Life Insurance		414,416,067	YES						414,416,067
1.01E9999 Total Life Insurance	775,473,186	3,866,074,583	XXX		1,440,580				3,866,074,583
1.01F9999 Totals	806,386,293	3,866,074,583	XXX		1,440,580				3,866,074,583

- 1.02 Did the reporting entity remit seed money, other fees and expenses or additional required surplus amounts to the general account during the current year? Yes [ X ] No [ ]
- 1.03 If yes, provide information on the total gross amount of seed money, other fees and expenses or additional required surplus amounts remitted to the general account during the current year (these amounts should not be reflected in the seed money totals in 1.01):
- 1.031 Seed Money.....\$ .....
- 1.032 Other Fees and Expenses.....\$ ..... 84,309
- 1.033 Additional Required Surplus Amounts . \$ .....
- 1.04 Did the reporting entity receive seed money from the general account in the current year? Yes [ ] No [ X ]
- 1.05 If yes, provide information on the total gross amount of seed money received in the current year: (If amounts were both received and remitted in the current year, include the gross amounts in both 1.031 and 1.051.)
- 1.051 Seed Money Received.....\$ .....
- 1.06 Does the reporting entity consider any of the seed money reflected in separate accounts to be insulated from the general account? Yes [ ] No [ ] N/A [ X ]
- 1.07 If yes, provide information on the amount of seed money the reporting entity considers insulated from the general account:
- 1.071 Insulated Seed Money ..... \$ .....

ANNUAL STATEMENT FOR THE YEAR 2023 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company

## GENERAL INTERROGATORIES

1.08 Does the reporting entity have a policy for repatriating seed money or remitting fees and expenses due and additional required surplus amounts to the general account:

1.081 Seed Money..... Yes [ ] No [ ]  
 1.082 Other Fees and Expenses..... Yes [ X ] No [ ]  
 1.083 Additional Required Surplus Amounts ... Yes [ ] No [ ]

1.09 Provide detail on the time duration for which seed money, other fees and expenses due to the general account and additional required surplus amounts have been held in the separate account:

	1 Seed Money	2 Fees and Expenses Due to the General Account	3 Additional Required Surplus Amounts
1.091 Under 1 Year .....	.....	.....	.....
1.092 1 Year - 3 Years .....	.....	.....	.....
1.093 Over 3 Years - 5 Years .....	.....	1,440,580	.....
1.094 Over 5 Years .....	.....	.....	.....
1.095 Total	.....	1,440,580	.....

1.10 For seed money, other fees and expenses, and additional required surplus amounts held in the separate account, does the reporting entity invest these funds in accordance with investment directives of the general account:

1.101 Seed Money..... Yes [ ] No [ ] N/A [ X ]  
 1.102 Other Fees and Expenses..... Yes [ ] No [ X ] N/A [ ]  
 1.103 Additional Required Surplus Amounts ... Yes [ ] No [ ] N/A [ X ]

1.11 If no, does the reporting entity have stated policy and procedure for the investment of seed money, other fees and expenses, and additional required surplus amounts that are retained with the separate account?

1.111 Seed Money..... Yes [ ] No [ ] N/A [ X ]  
 1.112 Other Fees and Expenses..... Yes [ X ] No [ ] N/A [ ]  
 1.113 Additional Required Surplus Amounts ... Yes [ ] No [ ] N/A [ X ]

**Separate Account Products with General Account Guarantees**

2.1 Does the reporting entity have products with guarantees provided by the general account? ..... Yes [ X ] No [ ]

2.2 Has the separate account collected amounts from the general account within the past five years related to separate account guarantees? ..... Yes [ X ] No [ ]

2.3 If yes, provide detail on these guarantees paid by the general account:

	1 Year	2 Amount
2.301 As of December 31, 2023 .....	.....	\$ 149,629
2.302 As of December 31, 2022 .....	.....	\$ 93,873
2.303 As of December 31, 2021 .....	.....	\$ 158,161
2.304 As of December 31, 2020 .....	.....	\$ 107,117
2.305 As of December 31, 2019 .....	.....	\$ 97,757

2.4 To compensate the general account for the risk taken, for any separate account products with general account guarantees, does the separate account remit risk charges to the general account related to separate account guarantees? ..... Yes [ ] No [ X ]

2.5 If yes, identify the separate account products with risk charges that are remitted to the general account and whether the risk charge for that product is reviewed and opined upon:

1 Product Identifier with Risk Charges	2 Risk Charge Reviewed and Opined Upon	3 Name and Title of Individual who Provided Opinion on Risk Charges
2.5A00001 Pension Risk Transfer Group Annuities	.....	.....
2.5B00001 All Other Group Annuities	.....	.....
2.5C00001 Registered Index Linked Annuities Individual Annuities	.....	.....
2.5D00001 All Other Individual Annuities	.....	.....
2.5E00001 Life Insurance	.....	.....

## GENERAL INTERROGATORIES

2.6 Provide detail on the risk charges paid to the general account related to separate account guarantees for the past five years:

	1 Year	2 Amount
2.601	As of December 31, 2023 .....	\$ .....
2.602	As of December 31, 2022 .....	\$ .....
2.603	As of December 31, 2021 .....	\$ .....
2.604	As of December 31, 2020 .....	\$ .....
2.605	As of December 31, 2019 .....	\$ .....

**Investment Directive of Separate Account Activity**

- 3.1 Does the reporting entity have products classified within the separate account for which the investment directive is not determined by the contract holder? (Situations in which the investments directive mirrors the general account would not be considered determined by the contract holder; however, having the contract holder select an investment direction from multiple options would meet this criteria.) ..... Yes [ X ] No [ ]
- 3.2 If yes, if these investments would have been included in the general account, would the reporting entity have exceeded the investment limitations imposed on the general account? ..... Yes [ ] No [ X ] N/A [ ]
- 3.3 Provide detail on the separate account investment portfolio and state investment limitations. (This includes the combined separate account and general investments, excluding separate account assets with investment direction determined by the contract holder):

1 Investment Type	2 State Investment Limitation	3 Combined Investment (Separate and General Account)

**Allocation of Investment Proceeds of Separate Account Activity**

- 4.1 Does the reporting entity have separate account assets in which less than 100% of investment proceeds (net of contract fees and assessments) are attributed to a contract holder? (This should identify any situations where there is a ceiling on investment performance results.) ..... Yes [ ] No [ X ]
- 4.2 If yes, provide detail on the net investment proceeds that were attributed to the contract holder, transferred to the general account and reinvested within the separate account:

1 Product Identifier	2 Net Investment Proceeds	3 Attributed to Contract Holder	4 Transferred to General Account	5 Reinvested Within the Separate Account
4.2A00001 Pension Risk Transfer Group Annuities				
4.2A99999 Total Pension Risk Transfer Group Annuities				
4.2B00001 All Other Group Annuities				
4.2B99999 Total All Other Group Annuities				
4.2C00001 Registered Index Linked Annuities Individual Annuities				
4.2C99999 Total Registered Index Linked Annuities Individual Annuities				
4.2D00001 All Other Individual Annuities				
4.2D99999 Total All Other Individual Annuities				
4.2E00001 Life Insurance				
4.2E99999 Total Life Insurance				
4.2F99999 Totals				

- 4.3 For items reinvested within the Separate Account, does the reporting entity invest these assets in accordance with investment directives of the general account? ..... Yes [ ] No [ ] N/A [ X ]
- 4.4 If no, does the reporting entity have a stated policy and procedure for the reinvestment of investment proceeds within the separate account? ..... Yes [ ] No [ ] N/A [ X ]
- 4.5 Did the reinvestment of investment proceeds within the separate account result with the company having a combined investment portfolio that exceeded the state investment limitations imposed on the general account? ..... Yes [ ] No [ ] N/A [ X ]

## GENERAL INTERROGATORIES

**Measurement of Separate Account Assets**

5.1 Does the reporting entity report all separate account assets at fair value? ..... Yes [ ] No [ X ]

5.2 For items not reported at fair value, does the reporting entity report separate account assets at amortized cost, and/or under different measurement methods?  
 5.21 Amortized Cost ..... Yes [ X ] No [ ]  
 5.22 Other Measurement Methods..... Yes [ ] No [ X ]

5.3 If other measurement methods are used, provide explanation on these measurement methods.  
 .....

5.4 Identify the assets measured at fair value, amortized cost or another measurement method and the percentage of separate account assets measured under each measurement method:

Description	1 Amount	2 Percentage
5.41 Fair Value .....	\$ 3,480,319,341	74.5 %
5.42 Amortized Cost .....	\$ 1,192,141,535	25.5 %
5.43 Other Measurement Methods .....	\$ .....	%

5.5 For the assets not measured at fair value, provide a comparison of the reported value to current fair value and identify the unrealized gain or loss that would have been recorded if the assets had been reported at fair value:

	1 Assets Held at Amortized Cost	2 Fair Value	3 Unrecorded Unrealized Gain/Loss
5.51...	\$ 1,192,141,535	\$ 1,139,139,903	\$ (53,001,632)

	1 Assets Held at Other Measurement Method	2 Fair Value	3 Unrecorded Unrealized Gain/Loss
5.52...	\$ .....	\$ .....	\$ .....

**Securities Lending Transactions Within Separate Accounts**

6.1 Does the reporting entity engage in securities lending transactions with separate account assets? ..... Yes [ ] No [ X ]

6.2 If yes, does the reporting entity have written policies and procedures for such transactions? ..... Yes [ ] No [ ] N/A [ X ]

6.3 Does the reporting entity obtain approval, or otherwise provide notification to contract holders, regarding securities lending transactions that occur with separate account assets? ..... Yes [ ] No [ ] N/A [ X ]

6.4 Are all securities lending transactions reported on balance sheet? ..... Yes [ ] No [ ] N/A [ X ]

6.5 Provide a description of the reporting entity's securities lending transaction program, specifically identifying any variations from the securities lending transaction program administered by the general account.  
 .....

6.6 Provide detail on the current status of separate account transactions by separate account product:

6.61 Amount of any loaned securities within the separate account and the percentage of separate account assets lent  
 6.611 Amount ..... \$ .....  
 6.612 Percentage..... %  
 6.62 Identify whether securities lent are reported at book value or market value  
 6.621 Book Value ..... \$ .....  
 6.622 Market Value..... \$ .....

6.63 Detail on collateral received:

6.631 Aggregate Amount Collateral Received  
 6.6311 Open ..... \$ .....  
 6.6312 30 Days or Less..... \$ .....  
 6.6313 31 to 60 Days..... \$ .....  
 6.6314 61 to 90 Days..... \$ .....  
 6.6315 Greater than 90 Days..... \$ .....  
 6.6316 Total Collateral Received.... \$ .....

6.632 The aggregate fair value of all securities acquired from the sale, trade or use of the accepted collateral (reinvested collateral) ..... \$ .....

6.633 Narrative discussion about sources and uses of collateral:  
 .....

6.634 Collateral for transactions that extend beyond one year from the reporting date ..... \$ .....

6.7 For the reporting entity's security lending program state the amount of the following as December 31 of the current year:

6.71 Total fair value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2 (Sum of Schedule DL, Parts 1 and 2, Column 5) ..... \$ .....  
 6.72 Total book/adjusted carrying value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2 (Sum of Schedule DL, Parts 1 and 2, Column 6) ..... \$ .....  
 6.73 Total payable for securities lending reported on the liability page (Page 3, Line 14, Column 3) ..... \$ .....

## GENERAL INTERROGATORIES

**FHLB Funding Agreements**

7.1 Does the reporting entity report Federal Home Loan Bank (FHLB) funding agreements within the separate account? ..... Yes [ ] No [ X ]

7.2 Provide detail on the elements that support the classification of FHLB funding agreements within the separate account  
.....

7.3 Provide detail regarding the FHLB funding agreements classified within the separate account:

1 Amount of FHLB Stock Purchased or Owned	2 Amount of Collateral Pledged to the FHLB	3 Total Borrowing or Funding Capacity Currently Available	4 Total Reserves Related to FHLB Agreements
\$ .....	\$ .....	\$ .....	\$ .....

7.4 For funding agreements within the separate account, provide a general description on the nature of the agreement, type of funding (lines of credit, borrowed money, etc) and intended use of funding.  
.....

**Reporting Differences Between GAAP and SAP Financial Statements (This disclosure is applicable to all reporting entities regardless if they file GAAP financial statements)**

8.1 Does the reporting entity file GAAP financial statements? ..... Yes [ ] No [ X ]

8.2 In accordance with the different separate account reporting requirements between GAAP (SOP 03-1) and statutory accounting, does the reporting entity have products that are classified within the separate account that were, or would have been if GAAP financial statements had been completed, required to be reported within the general account under GAAP financials? Pursuant to SOP 03-1, all of the following conditions must be met to receive separate account reporting classification under GAAP: ..... Yes [ X ] No [ ] N/A [ ]

- a. Legal Recognition - The separate account is legally recognized. That is, the separate account is established, approved, and regulated under special rules such as state insurance laws, federal securities laws, or similar foreign laws.
- b. Legally Insulated - The separate account assets supporting the contract liabilities are legally insulated from the general account liabilities of the insurance enterprise (that is, the contract holder is not subject to insurer default risk to the extent of the assets held in the separate account).
- c. Investment Directive - The insurer must, as a result of contractual, statutory, or regulatory requirements, invest the contract holder's funds within the separate account as directed by the contract holder in designated investment alternatives or in accordance with specific investment objectives or policies.
- d. Investment Performance - All investment performance, net of contract fees and assessments, must as a result of contractual, statutory, or regulatory requirements be passed through to the individual contract holder. Contracts may specify conditions under which there may be a minimum guarantee, but not a ceiling, as a ceiling would prohibit all investment performance from being passed through to the contract holder.

8.3 Identify all separate account products and identify whether each product was classified within a separate account for GAAP reporting purposes. (For non-GAAP filers, this disclosure should reflect whether the GAAP classification would have been the same if GAAP financials had been completed.) For products that were (or would have been) reported differently, identify which SOP 03-1 condition prevented separate account GAAP classification for that particular product.

1 Product Identifier	2 Same as GAAP / Condition that Requires GAAP General Account Reporting
Individual Variable Annuity .....	Same as GAAP .....
Individual Variable Universal Life .....	Same as GAAP .....
Corporate-owned Life Insurance .....	Same as GAAP .....
Bank-owned Life Insurance - Guaranteed .....	GAAP GIA classification due to Investment Performance .....
Stable Value Bank-owned Life Insurance .....	GAAP GIA classification due to Investment Performance .....



**FORM FOR CALCULATING THE INTEREST MAINTENANCE RESERVE**

**INTEREST MAINTENANCE RESERVE**

	1 Amount
1. Reserve as of December 31, Prior Year .....	473,211
2. Current year's realized pre-tax capital gains/(losses) of \$ ..... (12,431,313) transferred into the reserve net of taxes of \$ ..... 4,350,959	(8,080,354)
3. Adjustment for current year's liability gains/(losses) released from the reserve .....	8,080,354
4. Balance before reduction for amount transferred to Summary of Operations (Line 1 + Line 2 + Line 3) .....	473,211
5. Current year's amortization released to Summary of Operations (Amortization, Line 1, Column 4) .....	218,817
6. Reserve as of December 31, current year (Line 4 minus Line 5)	254,394

**AMORTIZATION**

Year of Amortization	1 Reserve as of December 31, Prior Year	2 Current Year's Realized Capital Gains/(Losses) Transferred into the Reserve Net of Taxes	3 Adjustment for Current Year's Liability Gains/(Losses) Released From the Reserve	4 Balance Before Reduction for Current Year's Amortization (Cols. 1 + 2 + 3)
1. 2023 .....	218,812	(995,617)	995,622	218,817
2. 2024 .....	220,096	(1,438,173)	1,438,168	220,091
3. 2025 .....	192,984	(859,627)	859,627	192,984
4. 2026 .....	147,494	(724,698)	724,698	147,494
5. 2027 .....	92,398	(587,363)	587,363	92,398
6. 2028 .....	31,684	(439,910)	439,910	31,684
7. 2029 .....	(24,188)	(344,634)	344,634	(24,188)
8. 2030 .....	(47,764)	(305,774)	305,774	(47,764)
9. 2031 .....	(54,315)	(261,710)	261,710	(54,315)
10. 2032 .....	(53,310)	(218,804)	218,804	(53,310)
11. 2033 .....	(49,230)	(171,349)	171,349	(49,230)
12. 2034 .....	(47,355)	(147,200)	147,200	(47,355)
13. 2035 .....	(47,009)	(145,223)	145,223	(47,009)
14. 2036 .....	(40,456)	(142,502)	142,502	(40,456)
15. 2037 .....	(32,313)	(143,666)	143,666	(32,313)
16. 2038 .....	(24,203)	(139,257)	139,257	(24,203)
17. 2039 .....	(10,114)	(135,673)	135,673	(10,114)
18. 2040 .....		(121,805)	121,805	
19. 2041 .....		(109,191)	109,191	
20. 2042 .....		(95,769)	95,769	
21. 2043 .....		(80,703)	80,703	
22. 2044 .....		(71,682)	71,682	
23. 2045 .....		(68,263)	68,263	
24. 2046 .....		(64,397)	64,397	
25. 2047 .....		(62,463)	62,463	
26. 2048 .....		(58,152)	58,152	
27. 2049 .....		(51,169)	51,169	
28. 2050 .....		(40,549)	40,549	
29. 2051 .....		(29,929)	29,929	
30. 2052 .....		(19,309)	19,309	
31. 2053 and Later		(5,793)	5,793	
32. Total (Lines 1 to 31)	473,211	(8,080,354)	8,080,354	473,211

**ASSET VALUATION RESERVE**  
**BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS**  
**DEFAULT COMPONENT**

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
<b>LONG-TERM BONDS</b>												
1.		Exempt Obligations .....	367,873,946	XXX	XXX	367,873,946	0.0000		0.0000		0.0000	
2.1	1	NAIC Designation Category 1.A .....	220,793,139	XXX	XXX	220,793,139	0.0002	44,159	0.0007	154,555	0.0013	287,031
2.2	1	NAIC Designation Category 1.B .....	23,958,313	XXX	XXX	23,958,313	0.0004	9,583	0.0011	26,354	0.0023	55,104
2.3	1	NAIC Designation Category 1.C .....	27,181,230	XXX	XXX	27,181,230	0.0006	16,309	0.0018	48,926	0.0035	95,134
2.4	1	NAIC Designation Category 1.D .....	48,162,750	XXX	XXX	48,162,750	0.0007	33,714	0.0022	105,958	0.0044	211,916
2.5	1	NAIC Designation Category 1.E .....	95,803,694	XXX	XXX	95,803,694	0.0009	86,223	0.0027	258,670	0.0055	526,920
2.6	1	NAIC Designation Category 1.F .....	131,719,697	XXX	XXX	131,719,697	0.0011	144,892	0.0034	447,847	0.0068	895,694
2.7	1	NAIC Designation Category 1.G .....	116,977,712	XXX	XXX	116,977,712	0.0014	163,769	0.0042	491,306	0.0085	994,311
2.8		Subtotal NAIC 1 (2.1+2.2+2.3+2.4+2.5+2.6+2.7) .....	664,596,535	XXX	XXX	664,596,535	XXX	498,648	XXX	1,533,617	XXX	3,066,110
3.1	2	NAIC Designation Category 2.A .....	68,546,747	XXX	XXX	68,546,747	0.0021	143,948	0.0063	431,845	0.0105	719,741
3.2	2	NAIC Designation Category 2.B .....	52,172,984	XXX	XXX	52,172,984	0.0025	130,432	0.0076	396,515	0.0127	662,597
3.3	2	NAIC Designation Category 2.C .....	29,586,806	XXX	XXX	29,586,806	0.0036	106,513	0.0108	319,538	0.0180	532,563
3.4		Subtotal NAIC 2 (3.1+3.2+3.3) .....	150,306,538	XXX	XXX	150,306,538	XXX	380,893	XXX	1,147,897	XXX	1,914,900
4.1	3	NAIC Designation Category 3.A .....	960,642	XXX	XXX	960,642	0.0069	6,628	0.0183	17,580	0.0262	25,169
4.2	3	NAIC Designation Category 3.B .....	783,593	XXX	XXX	783,593	0.0099	7,758	0.0264	20,687	0.0377	29,541
4.3	3	NAIC Designation Category 3.C .....	437,796	XXX	XXX	437,796	0.0131	5,735	0.0350	15,323	0.0500	21,890
4.4		Subtotal NAIC 3 (4.1+4.2+4.3) .....	2,182,031	XXX	XXX	2,182,031	XXX	20,121	XXX	53,589	XXX	76,600
5.1	4	NAIC Designation Category 4.A .....	249,817	XXX	XXX	249,817	0.0184	4,597	0.0430	10,742	0.0615	15,364
5.2	4	NAIC Designation Category 4.B .....	2,824	XXX	XXX	2,824	0.0238	67	0.0555	157	0.0793	224
5.3	4	NAIC Designation Category 4.C .....		XXX	XXX		0.0310		0.0724		0.1034	
5.4		Subtotal NAIC 4 (5.1+5.2+5.3) .....	252,641	XXX	XXX	252,641	XXX	4,664	XXX	10,899	XXX	15,588
6.1	5	NAIC Designation Category 5.A .....		XXX	XXX		0.0472		0.0846		0.1410	
6.2	5	NAIC Designation Category 5.B .....		XXX	XXX		0.0663		0.1188		0.1980	
6.3	5	NAIC Designation Category 5.C .....		XXX	XXX		0.0836		0.1498		0.2496	
6.4		Subtotal NAIC 5 (6.1+6.2+6.3) .....		XXX	XXX		XXX		XXX		XXX	
7.	6	NAIC 6 .....		XXX	XXX		0.0000		0.2370		0.2370	
8.		Total Unrated Multi-class Securities Acquired by Conversion .....		XXX	XXX		XXX		XXX		XXX	
9.		Total Long-Term Bonds (1+2.8+3.4+4.4+5.4+6.4+7+8) .....	1,185,211,691	XXX	XXX	1,185,211,691	XXX	904,327	XXX	2,746,002	XXX	5,073,198
<b>PREFERRED STOCKS</b>												
10.	1	Highest Quality .....		XXX	XXX		0.0005		0.0016		0.0033	
11.	2	High Quality .....		XXX	XXX		0.0021		0.0064		0.0106	
12.	3	Medium Quality .....		XXX	XXX		0.0099		0.0263		0.0376	
13.	4	Low Quality .....		XXX	XXX		0.0245		0.0572		0.0817	
14.	5	Lower Quality .....		XXX	XXX		0.0630		0.1128		0.1880	
15.	6	In or Near Default .....		XXX	XXX		0.0000		0.2370		0.2370	
16.		Affiliated Life with AVR .....		XXX	XXX		0.0000		0.0000		0.0000	
17.		Total Preferred Stocks (Sum of Lines 10 through 16) .....		XXX	XXX		XXX		XXX		XXX	

**ASSET VALUATION RESERVE (Continued)**  
**BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS**  
**DEFAULT COMPONENT**

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
<b>SHORT-TERM BONDS</b>												
18.		Exempt Obligations .....		XXX	XXX		0.0000		0.0000		0.0000	
19.1	1	NAIC Designation Category 1.A .....		XXX	XXX		0.0002		0.0007		0.0013	
19.2	1	NAIC Designation Category 1.B .....		XXX	XXX		0.0004		0.0011		0.0023	
19.3	1	NAIC Designation Category 1.C .....		XXX	XXX		0.0006		0.0018		0.0035	
19.4	1	NAIC Designation Category 1.D .....		XXX	XXX		0.0007		0.0022		0.0044	
19.5	1	NAIC Designation Category 1.E .....		XXX	XXX		0.0009		0.0027		0.0055	
19.6	1	NAIC Designation Category 1.F .....		XXX	XXX		0.0011		0.0034		0.0068	
19.7	1	NAIC Designation Category 1.G .....		XXX	XXX		0.0014		0.0042		0.0085	
19.8		Subtotal NAIC 1 (19.1+19.2+19.3+19.4+19.5+19.6+19.7) .....		XXX	XXX		XXX		XXX		XXX	
20.1	2	NAIC Designation Category 2.A .....		XXX	XXX		0.0021		0.0063		0.0105	
20.2	2	NAIC Designation Category 2.B .....		XXX	XXX		0.0025		0.0076		0.0127	
20.3	2	NAIC Designation Category 2.C .....		XXX	XXX		0.0036		0.0108		0.0180	
20.4		Subtotal NAIC 2 (20.1+20.2+20.3) .....		XXX	XXX		XXX		XXX		XXX	
21.1	3	NAIC Designation Category 3.A .....		XXX	XXX		0.0069		0.0183		0.0262	
21.2	3	NAIC Designation Category 3.B .....		XXX	XXX		0.0099		0.0264		0.0377	
21.3	3	NAIC Designation Category 3.C .....		XXX	XXX		0.0131		0.0350		0.0500	
21.4		Subtotal NAIC 3 (21.1+21.2+21.3) .....		XXX	XXX		XXX		XXX		XXX	
22.1	4	NAIC Designation Category 4.A .....		XXX	XXX		0.0184		0.0430		0.0615	
22.2	4	NAIC Designation Category 4.B .....		XXX	XXX		0.0238		0.0555		0.0793	
22.3	4	NAIC Designation Category 4.C .....		XXX	XXX		0.0310		0.0724		0.1034	
22.4		Subtotal NAIC 4 (22.1+22.2+22.3) .....		XXX	XXX		XXX		XXX		XXX	
23.1	5	NAIC Designation Category 5.A .....		XXX	XXX		0.0472		0.0846		0.1410	
23.2	5	NAIC Designation Category 5.B .....		XXX	XXX		0.0663		0.1188		0.1980	
23.3	5	NAIC Designation Category 5.C .....		XXX	XXX		0.0836		0.1498		0.2496	
23.4		Subtotal NAIC 5 (23.1+23.2+23.3) .....		XXX	XXX		XXX		XXX		XXX	
24.	6	NAIC 6 .....		XXX	XXX		0.0000		0.2370		0.2370	
25.		Total Short-Term Bonds (18+19.8+20.4+21.4+22.4+23.4+24) .....		XXX	XXX		XXX		XXX		XXX	
<b>DERIVATIVE INSTRUMENTS</b>												
26.		Exchange Traded .....		XXX	XXX		0.0005		0.0016		0.0033	
27.	1	Highest Quality .....	(212,638)	XXX	XXX	(212,638)	0.0005	(106)	0.0016	(340)	0.0033	(702)
28.	2	High Quality .....		XXX	XXX		0.0021		0.0064		0.0106	
29.	3	Medium Quality .....		XXX	XXX		0.0099		0.0263		0.0376	
30.	4	Low Quality .....		XXX	XXX		0.0245		0.0572		0.0817	
31.	5	Lower Quality .....		XXX	XXX		0.0630		0.1128		0.1880	
32.	6	In or Near Default .....		XXX	XXX		0.0000		0.2370		0.2370	
33.		Total Derivative Instruments .....	(212,638)	XXX	XXX	(212,638)	XXX	(106)	XXX	(340)	XXX	(702)
34.		Total (Lines 9 + 17 + 25 + 33) .....	1,184,999,053	XXX	XXX	1,184,999,053	XXX	904,220	XXX	2,745,662	XXX	5,072,497

**ASSET VALUATION RESERVE (Continued)**  
**BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS**  
**DEFAULT COMPONENT**

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols.4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
MORTGAGE LOANS												
In Good Standing:												
35.		Farm Mortgages - CM1 - Highest Quality .....			XXX		0.0011		0.0057		0.0074	
36.		Farm Mortgages - CM2 - High Quality .....			XXX		0.0040		0.0114		0.0149	
37.		Farm Mortgages - CM3 - Medium Quality .....			XXX		0.0069		0.0200		0.0257	
38.		Farm Mortgages - CM4 - Low Medium Quality .....			XXX		0.0120		0.0343		0.0428	
39.		Farm Mortgages - CM5 - Low Quality .....			XXX		0.0183		0.0486		0.0628	
40.		Residential Mortgages - Insured or Guaranteed .....	6,929,844		XXX	6,929,844	0.0003	2,079	0.0007	4,851	0.0011	7,623
41.		Residential Mortgages - All Other .....			XXX		0.0015		0.0034		0.0046	
42.		Commercial Mortgages - Insured or Guaranteed .....			XXX		0.0003		0.0007		0.0011	
43.		Commercial Mortgages - All Other - CM1 - Highest Quality .....			XXX		0.0011		0.0057		0.0074	
44.		Commercial Mortgages - All Other - CM2 - High Quality .....			XXX		0.0040		0.0114		0.0149	
45.		Commercial Mortgages - All Other - CM3 - Medium Quality .....			XXX		0.0069		0.0200		0.0257	
46.		Commercial Mortgages - All Other - CM4 - Low Medium Quality .....			XXX		0.0120		0.0343		0.0428	
47.		Commercial Mortgages - All Other - CM5 - Low Quality .....			XXX		0.0183		0.0486		0.0628	
Overdue, Not in Process:												
48.		Farm Mortgages .....			XXX		0.0480		0.0868		0.1371	
49.		Residential Mortgages - Insured or Guaranteed .....			XXX		0.0006		0.0014		0.0023	
50.		Residential Mortgages - All Other .....			XXX		0.0029		0.0066		0.0103	
51.		Commercial Mortgages - Insured or Guaranteed .....			XXX		0.0006		0.0014		0.0023	
52.		Commercial Mortgages - All Other .....			XXX		0.0480		0.0868		0.1371	
In Process of Foreclosure:												
53.		Farm Mortgages .....			XXX		0.0000		0.1942		0.1942	
54.		Residential Mortgages - Insured or Guaranteed .....			XXX		0.0000		0.0046		0.0046	
55.		Residential Mortgages - All Other .....			XXX		0.0000		0.0149		0.0149	
56.		Commercial Mortgages - Insured or Guaranteed .....			XXX		0.0000		0.0046		0.0046	
57.		Commercial Mortgages - All Other .....			XXX		0.0000		0.1942		0.1942	
58.		Total Schedule B Mortgages (Sum of Lines 35 through 57)	6,929,844		XXX	6,929,844	XXX	2,079	XXX	4,851	XXX	7,623
59.		Schedule DA Mortgages			XXX		0.0034		0.0114		0.0149	
60.		Total Mortgage Loans on Real Estate (Lines 58 + 59)	6,929,844		XXX	6,929,844	XXX	2,079	XXX	4,851	XXX	7,623

**ASSET VALUATION RESERVE**  
**BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS**  
**EQUITY AND OTHER INVESTED ASSET COMPONENT**

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
COMMON STOCK												
1.		Unaffiliated - Public .....		XXX	XXX		0.0000		0.1580 (a)		0.1580 (a)	
2.		Unaffiliated - Private .....		XXX	XXX		0.0000		0.1945		0.1945	
3.		Federal Home Loan Bank .....		XXX	XXX		0.0000		0.0061		0.0097	
4.		Affiliated - Life with AVR .....		XXX	XXX		0.0000		0.0000		0.0000	
Affiliated - Investment Subsidiary:												
5.		Fixed Income - Exempt Obligations .....		XXX			XXX		XXX		XXX	
6.		Fixed Income - Highest Quality .....		XXX			XXX		XXX		XXX	
7.		Fixed Income - High Quality .....		XXX			XXX		XXX		XXX	
8.		Fixed Income - Medium Quality .....		XXX			XXX		XXX		XXX	
9.		Fixed Income - Low Quality .....		XXX			XXX		XXX		XXX	
10.		Fixed Income - Lower Quality .....		XXX			XXX		XXX		XXX	
11.		Fixed Income - In/Near Default .....		XXX			XXX		XXX		XXX	
12.		Unaffiliated Common Stock - Public .....					0.0000		0.1580 (a)		0.1580 (a)	
13.		Unaffiliated Common Stock - Private .....					0.0000		0.1945		0.1945	
14.		Real Estate .....					(b)		(b)		(b)	
15.		Affiliated - Certain Other (See SVO Purposes and Procedures Manual) .....		XXX	XXX		0.0000		0.1580		0.1580	
16.		Affiliated - All Other .....		XXX	XXX		0.0000		0.1945		0.1945	
17.		Total Common Stock (Sum of Lines 1 through 16)					XXX		XXX		XXX	
REAL ESTATE												
18.		Home Office Property (General Account only) .....					0.0000		0.0912		0.0912	
19.		Investment Properties .....					0.0000		0.0912		0.0912	
20.		Properties Acquired in Satisfaction of Debt .....					0.0000		0.1337		0.1337	
21.		Total Real Estate (Sum of Lines 18 through 20)					XXX		XXX		XXX	
OTHER INVESTED ASSETS												
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF BONDS												
22.		Exempt Obligations .....		XXX	XXX		0.0000		0.0000		0.0000	
23.	1	Highest Quality .....		XXX	XXX		0.0005		0.0016		0.0033	
24.	2	High Quality .....		XXX	XXX		0.0021		0.0064		0.0106	
25.	3	Medium Quality .....		XXX	XXX		0.0099		0.0263		0.0376	
26.	4	Low Quality .....		XXX	XXX		0.0245		0.0572		0.0817	
27.	5	Lower Quality .....		XXX	XXX		0.0630		0.1128		0.1880	
28.	6	In or Near Default .....		XXX	XXX		0.0000		0.2370		0.2370	
29.		Total with Bond Characteristics (Sum of Lines 22 through 28)		XXX	XXX		XXX		XXX		XXX	

**ASSET VALUATION RESERVE (Continued)**  
**BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS**  
**EQUITY AND OTHER INVESTED ASSET COMPONENT**

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF PREFERRED STOCKS												
30.	1	Highest Quality .....	2,029,012	XXX	XXX	2,029,012	0.0005	1,015	0.0016	3,246	0.0033	6,696
31.	2	High Quality .....		XXX	XXX		0.0021		0.0064		0.0106	
32.	3	Medium Quality .....		XXX	XXX		0.0099		0.0263		0.0376	
33.	4	Low Quality .....		XXX	XXX		0.0245		0.0572		0.0817	
34.	5	Lower Quality.....		XXX	XXX		0.0630		0.1128		0.1880	
35.	6	In or Near Default .....		XXX	XXX		0.0000		0.2370		0.2370	
36.		Affiliated Life with AVR .....		XXX	XXX		0.0000		0.0000		0.0000	
37.		Total with Preferred Stock Characteristics (Sum of Lines 30 through 36)	2,029,012	XXX	XXX	2,029,012	XXX	1,015	XXX	3,246	XXX	6,696
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF MORTGAGE LOANS												
In Good Standing Affiliated:												
38.		Mortgages - CM1 - Highest Quality .....			XXX		0.0011		0.0057		0.0074	
39.		Mortgages - CM2 - High Quality .....			XXX		0.0040		0.0114		0.0149	
40.		Mortgages - CM3 - Medium Quality .....			XXX		0.0069		0.0200		0.0257	
41.		Mortgages - CM4 - Low Medium Quality .....			XXX		0.0120		0.0343		0.0428	
42.		Mortgages - CM5 - Low Quality .....			XXX		0.0183		0.0486		0.0628	
43.		Residential Mortgages - Insured or Guaranteed .....			XXX		0.0003		0.0007		0.0011	
44.		Residential Mortgages - All Other .....		XXX	XXX		0.0015		0.0034		0.0046	
45.		Commercial Mortgages - Insured or Guaranteed .....			XXX		0.0003		0.0007		0.0011	
Overdue, Not in Process Affiliated:												
46.		Farm Mortgages .....			XXX		0.0480		0.0868		0.1371	
47.		Residential Mortgages - Insured or Guaranteed .....			XXX		0.0006		0.0014		0.0023	
48.		Residential Mortgages - All Other .....			XXX		0.0029		0.0066		0.0103	
49.		Commercial Mortgages - Insured or Guaranteed .....			XXX		0.0006		0.0014		0.0023	
50.		Commercial Mortgages - All Other .....			XXX		0.0480		0.0868		0.1371	
In Process of Foreclosure Affiliated:												
51.		Farm Mortgages .....			XXX		0.0000		0.1942		0.1942	
52.		Residential Mortgages - Insured or Guaranteed .....			XXX		0.0000		0.0046		0.0046	
53.		Residential Mortgages - All Other .....			XXX		0.0000		0.0149		0.0149	
54.		Commercial Mortgages - Insured or Guaranteed .....			XXX		0.0000		0.0046		0.0046	
55.		Commercial Mortgages - All Other .....			XXX		0.0000		0.1942		0.1942	
56.		Total Affiliated (Sum of Lines 38 through 55) .....			XXX		XXX		XXX		XXX	
57.		Unaffiliated - In Good Standing With Covenants .....			XXX		(c)		(c)		(c)	
58.		Unaffiliated - In Good Standing Defeased With Government Securities .....			XXX		0.0011		0.0057		0.0074	
59.		Unaffiliated - In Good Standing Primarily Senior .....			XXX		0.0040		0.0114		0.0149	
60.		Unaffiliated - In Good Standing All Other .....			XXX		0.0069		0.0200		0.0257	
61.		Unaffiliated - Overdue, Not in Process .....			XXX		0.0480		0.0868		0.1371	
62.		Unaffiliated - In Process of Foreclosure .....			XXX		0.0000		0.1942		0.1942	
63.		Total Unaffiliated (Sum of Lines 57 through 62) .....			XXX		XXX		XXX		XXX	
64.		Total with Mortgage Loan Characteristics (Lines 56 + 63)			XXX		XXX		XXX		XXX	

**ASSET VALUATION RESERVE (Continued)**  
**BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS**  
**EQUITY AND OTHER INVESTED ASSET COMPONENT**

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF COMMON STOCK												
65.		Unaffiliated Public .....		XXX	XXX		0.0000		0.1580 (a)		0.1580 (a)	
66.		Unaffiliated Private .....		XXX	XXX		0.0000		0.1945		0.1945	
67.		Affiliated Life with AVR .....		XXX	XXX		0.0000		0.0000		0.0000	
68.		Affiliated Certain Other (See SVO Purposes & Procedures Manual) .....		XXX	XXX		0.0000		0.1580		0.1580	
69.		Affiliated Other - All Other .....		XXX	XXX		0.0000		0.1945		0.1945	
70.		Total with Common Stock Characteristics (Sum of Lines 65 through 69)		XXX	XXX		XXX		XXX		XXX	
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF REAL ESTATE												
71.		Home Office Property (General Account only) .....					0.0000		0.0912		0.0912	
72.		Investment Properties .....					0.0000		0.0912		0.0912	
73.		Properties Acquired in Satisfaction of Debt .....					0.0000		0.1337		0.1337	
74.		Total with Real Estate Characteristics (Sum of Lines 71 through 73)					XXX		XXX		XXX	
LOW INCOME HOUSING TAX CREDIT INVESTMENTS												
75.		Guaranteed Federal Low Income Housing Tax Credit .....					0.0003		0.0006		0.0010	
76.		Non-guaranteed Federal Low Income Housing Tax Credit .....					0.0063		0.0120		0.0190	
77.		Guaranteed State Low Income Housing Tax Credit .....					0.0003		0.0006		0.0010	
78.		Non-guaranteed State Low Income Housing Tax Credit .....					0.0063		0.0120		0.0190	
79.		All Other Low Income Housing Tax Credit .....					0.0273		0.0600		0.0975	
80.		Total LIHTC (Sum of Lines 75 through 79)					XXX		XXX		XXX	
RESIDUAL TRanches OR INTERESTS												
81.		Fixed Income Instruments - Unaffiliated .....		XXX	XXX		0.0000		0.1580		0.1580	
82.		Fixed Income Instruments - Affiliated .....		XXX	XXX		0.0000		0.1580		0.1580	
83.		Common Stock - Unaffiliated .....		XXX	XXX		0.0000		0.1580		0.1580	
84.		Common Stock - Affiliated .....		XXX	XXX		0.0000		0.1580		0.1580	
85.		Preferred Stock - Unaffiliated .....		XXX	XXX		0.0000		0.1580		0.1580	
86.		Preferred Stock - Affiliated .....		XXX	XXX		0.0000		0.1580		0.1580	
87.		Real Estate - Unaffiliated .....					0.0000		0.1580		0.1580	
88.		Real Estate - Affiliated .....					0.0000		0.1580		0.1580	
89.		Mortgage Loans - Unaffiliated .....		XXX	XXX		0.0000		0.1580		0.1580	
90.		Mortgage Loans - Affiliated .....		XXX	XXX		0.0000		0.1580		0.1580	
91.		Other - Unaffiliated .....		XXX	XXX		0.0000		0.1580		0.1580	
92.		Other - Affiliated .....		XXX	XXX		0.0000		0.1580		0.1580	
93.		Total Residual Tranches or Interests (Sum of Lines 81 through 92)					XXX		XXX		XXX	
ALL OTHER INVESTMENTS												
94.		NAIC 1 Working Capital Finance Investments .....		XXX			0.0000		0.0042		0.0042	
95.		NAIC 2 Working Capital Finance Investments .....		XXX			0.0000		0.0137		0.0137	
96.		Other Invested Assets - Schedule BA .....		XXX			0.0000		0.1580		0.1580	
97.		Other Short-Term Invested Assets - Schedule DA .....		XXX			0.0000		0.1580		0.1580	
98.		Total All Other (Sum of Lines 94, 95, 96 and 97) .....		XXX			XXX		XXX		XXX	
99.		Total Other Invested Assets - Schedules BA & DA (Sum of Lines 29, 37, 64, 70, 74, 80, 93 and 98)	2,029,012				2,029,012	XXX	1,015	XXX	3,246	6,696

(a) Times the company's weighted average portfolio beta (Minimum .1215, Maximum .2431).

(b) Determined using the same factors and breakdowns used for directly owned real estate.

(c) This will be the factor associated with the risk category determined in the company generated worksheet.

**ASSET VALUATION RESERVE**

**BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS REPLICATIONS (SYNTHETIC) ASSETS**

1 RSAT Number	2 Type	3 CUSIP	4 Description of Asset(s)	5 NAIC Designation or Other Description of Asset	6 Value of Asset	7 AVR Basic Contribution	8 AVR Reserve Objective	9 AVR Maximum Reserve
0599999 - Total								

NONE



**OVERFLOW PAGE FOR WRITE-INS**

**NONE**

## SCHEDULE A - VERIFICATION BETWEEN YEARS

Real Estate

1.	Book/adjusted carrying value, December 31 of prior year .....	
2.	Cost of acquired:	
2.1	Actual cost at time of acquisition (Part 2, Column 6) .....	
2.2	Additional investment made after acquisition (Part 2, Column 9) .....	
3.	Current year change in encumbrances:	
3.1	Totals, Part 1, Column 13 .....	
3.2	Totals, Part 3, Column 11 .....	
4.	Total gain (loss) on disposals, Part 3, Column 18 .....	
5.	Deduct amounts received on disposals, Part 3, Column 15 .....	
6.	Total foreign exchange change in book/adjusted carrying value:	
6.1	Totals, Part 1, Column 15 .....	
6.2	Totals, Part 3, Column 13 .....	
7.	Deduct current year's other than temporary impairment recognized:	
7.1	Totals, Part 1, Column 12 .....	
7.2	Totals, Part 3, Column 10 .....	
8.	Deduct current year's depreciation:	
8.1	Totals, Part 1, Column 11 .....	
8.2	Totals, Part 3, Column 9 .....	
9.	Book/adjusted carrying value at the end of current period (Lines 1+2+3+4-5+6-7-8) .....	
10.	Deduct total nonadmitted amounts .....	
11.	Statement value at end of current period (Line 9 minus Line 10) .....	

NONE

## SCHEDULE B - VERIFICATION BETWEEN YEARS

Mortgage Loans

1.	Book value/recorded investment excluding accrued interest, December 31 of prior year .....	7,668,464
2.	Cost of acquired:	
2.1	Actual cost at time of acquisition (Part 2, Column 7) .....	
2.2	Additional investment made after acquisition (Part 2, Column 8) .....	46,859
3.	Capitalized deferred interest and other:	46,859
3.1	Totals, Part 1, Column 12 .....	
3.2	Totals, Part 3, Column 11 .....	
4.	Accrual of discount .....	968
5.	Unrealized valuation increase/(decrease):	
5.1	Totals, Part 1, Column 9 .....	
5.2	Totals, Part 3, Column 8 .....	
6.	Total gain (loss) on disposals, Part 3, Column 18 .....	(33)
7.	Deduct amounts received on disposals, Part 3, Column 15 .....	768,602
8.	Deduct amortization of premium and mortgage interest points and commitment fees .....	17,812
9.	Total foreign exchange change in book value/recorded investment excluding accrued interest:	
9.1	Totals, Part 1, Column 13 .....	
9.2	Totals, Part 3, Column 13 .....	
10.	Deduct current year's other than temporary impairment recognized:	
10.1	Totals, Part 1, Column 11 .....	
10.2	Totals, Part 3, Column 10 .....	
11.	Book value/recorded investment excluding accrued interest at end of current period (Lines 1+2+3+4+5+6-7-8+9-10) .....	6,929,844
12.	Total valuation allowance .....	
13.	Subtotal (Line 11 plus 12) .....	6,929,844
14.	Deduct total nonadmitted amounts .....	
15.	Statement value of mortgages owned at end of current period (Line 13 minus Line 14) .....	6,929,844

## SCHEDULE BA - VERIFICATION BETWEEN YEARS

Other Long-Term Invested Assets

1.	Book/adjusted carrying value, December 31 of prior year .....	621,665
2.	Cost of acquired:	
	2.1 Actual cost at time of acquisition (Part 2, Column 8) .....	1,181,478
	2.2 Additional investment made after acquisition (Part 2, Column 9) .....	1,181,478
3.	Capitalized deferred interest and other:	
	3.1 Totals, Part 1, Column 16 .....	
	3.2 Totals, Part 3, Column 12 .....	
4.	Accrual of discount .....	368,656
5.	Unrealized valuation increase/(decrease):	
	5.1 Totals, Part 1, Column 13 .....	(15,216)
	5.2 Totals, Part 3, Column 9 .....	(15,216)
6.	Total gain (loss) on disposals, Part 3, Column 19 .....	(22,203)
7.	Deduct amounts received on disposals, Part 3, Column 16 .....	61,657
8.	Deduct amortization of premium and depreciation .....	
9.	Total foreign exchange change in book/adjusted carrying value:	
	9.1 Totals, Part 1, Column 17 .....	
	9.2 Totals, Part 3, Column 14 .....	
10.	Deduct current year's other than temporary impairment recognized:	
	10.1 Totals, Part 1, Column 15 .....	
	10.2 Totals, Part 3, Column 11 .....	
11.	Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5+6-7-8+9-10) .....	2,072,723
12.	Deduct total nonadmitted amounts .....	
13.	Statement value at end of current period (Line 11 minus Line 12) .....	2,072,723

## SCHEDULE D - VERIFICATION BETWEEN YEARS

Bonds and Stocks

1.	Book/adjusted carrying value, December 31 of prior year .....	4,055,949,893
2.	Cost of bonds and stocks acquired, Part 3, Column 7 .....	962,019,431
3.	Accrual of discount .....	2,790,992
4.	Unrealized valuation increase/(decrease):	
	4.1. Part 1, Column 12 .....	14,249,029
	4.2. Part 2, Section 1, Column 15 .....	
	4.3. Part 2, Section 2, Column 13 .....	112,196,340
	4.4. Part 4, Column 11 .....	33,441,703
		159,887,072
5.	Total gain (loss) on disposals, Part 4, Column 19 .....	(26,821,132)
6.	Deduction consideration for bonds and stocks disposed of, Part 4, Column 7 .....	864,407,444
7.	Deduct amortization of premium .....	1,671,789
8.	Total foreign exchange change in book/adjusted carrying value:	
	8.1. Part 1, Column 15 .....	
	8.2. Part 2, Section 1, Column 19 .....	
	8.3. Part 2, Section 2, Column 16 .....	
	8.4. Part 4, Column 15 .....	
9.	Deduct current year's other than temporary impairment recognized:	
	9.1. Part 1, Column 14 .....	
	9.2. Part 2, Section 1, Column 17 .....	
	9.3. Part 2, Section 2, Column 14 .....	
	9.4. Part 4, Column 13 .....	
10.	Total investment income recognized as a result of prepayment penalties and/or acceleration fees, Note 5Q, Line 2 .....	7,190
11.	Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9+10) .....	4,287,754,213
12.	Deduct total nonadmitted amounts .....	
13.	Statement value at end of current period (Line 11 minus Line 12) .....	4,287,754,213

ANNUAL STATEMENT FOR THE YEAR 2023 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company

**SCHEDULE D - SUMMARY BY COUNTRY**

Long-Term Bonds and Stocks OWNED December 31 of Current Year

Description		1 Book/Adjusted Carrying Value	2 Fair Value	3 Actual Cost	4 Par Value of Bonds
<b>BONDS</b>					
Governments (Including all obligations guaranteed by governments)	1. United States .....	598,030,932	585,996,999	619,343,572	628,801,086
	2. Canada .....	6,356,870	6,009,062	6,744,826	6,225,000
	3. Other Countries	3,072,859	2,593,955	3,122,790	3,037,700
	4. Totals	607,460,661	594,600,016	629,211,188	638,063,786
U.S. States, Territories and Possessions (Direct and guaranteed)	5. Totals	1,438,970	1,316,912	1,456,406	1,130,000
U.S. Political Subdivisions of States, Territories and Possessions (Direct and guaranteed)	6. Totals	3,377,448	3,101,992	3,383,312	3,240,000
U.S. Special Revenue and Special Assessment Obligations and all Non- Guaranteed Obligations of Agencies and Authorities of Governments and their Political Subdivisions	7. Totals	1,354,336,412	1,346,701,249	1,519,332,694	1,507,304,709
Industrial and Miscellaneous, SVO Identified Funds, Unaffiliated Bank Loans, Unaffiliated Certificates of Deposit and Hybrid Securities (unaffiliated)	8. United States .....	1,066,804,133	1,038,480,282	1,104,147,262	1,097,189,325
	9. Canada .....	16,328,933	15,761,365	16,395,320	16,326,664
	10. Other Countries	87,412,619	84,911,139	87,672,660	87,655,945
	11. Totals	1,170,545,685	1,139,152,786	1,208,215,242	1,201,171,934
Parent, Subsidiaries and Affiliates	12. Totals				
	13. Total Bonds	3,137,159,176	3,084,872,955	3,361,598,842	3,350,910,429
<b>PREFERRED STOCKS</b>					
Industrial and Miscellaneous (unaffiliated)	14. United States .....				
	15. Canada .....				
	16. Other Countries				
	17. Totals				
Parent, Subsidiaries and Affiliates	18. Totals				
	19. Total Preferred Stocks				
<b>COMMON STOCKS</b>					
Industrial and Miscellaneous (unaffiliated), Mutual Funds, Unit Investment Trusts, Closed-End Funds and Exchange Traded Funds	20. United States .....	1,150,595,037	1,150,595,037	1,137,706,395	
	21. Canada .....				
	22. Other Countries				
	23. Totals	1,150,595,037	1,150,595,037	1,137,706,395	
Parent, Subsidiaries and Affiliates	24. Totals				
	25. Total Common Stocks	1,150,595,037	1,150,595,037	1,137,706,395	
	26. Total Stocks	1,150,595,037	1,150,595,037	1,137,706,395	
	27. Total Bonds and Stocks	4,287,754,213	4,235,467,992	4,499,305,237	

**SCHEDULE DA - VERIFICATION BETWEEN YEARS**

Short-Term Investments

	1	2	3	4	5
	Total	Bonds	Mortgage Loans	Other Short-term Investment Assets (a)	Investments in Parent, Subsidiaries and Affiliates
1. Book/adjusted carrying value, December 31 of prior year .....	25,211,180	25,211,180			
2. Cost of short-term investments acquired .....	113,893,385	113,893,385			
3. Accrual of discount .....	9,536	9,536			
4. Unrealized valuation increase/(decrease) .....					
5. Total gain (loss) on disposals .....	1,388,080	1,388,080			
6. Deduct consideration received on disposals .....	94,089,517	94,089,517			
7. Deduct amortization of premium .....					
8. Total foreign exchange change in book/adjusted carrying value .....					
9. Deduct current year's other than temporary impairment recognized .....					
10. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9) .....	46,412,664	46,412,664			
11. Deduct total nonadmitted amounts .....					
12. Statement value at end of current period (Line 10 minus Line 11)	46,412,664	46,412,664			

(a) Indicate the category of such assets, for example, joint ventures, transportation equipment:

## SCHEDULE DB - PART A - VERIFICATION BETWEEN YEARS

Options, Caps, Floors, Collars, Swaps and Forwards

1. Book/adjusted carrying value, December 31, prior year (Line 10, prior year)	277,552,343
2. Cost paid/(consideration received) on additions:	
2.1 Current year paid/(consideration received) at time of acquisition, still open, Section 1, Column 12	
2.2 Current year paid/(consideration received) at time of acquisition, terminated, Section 2, Column 14	
3. Unrealized valuation increase/(decrease):	
3.1 Section 1, Column 17	(77,807,106)
3.2 Section 2, Column 19	508,471
	(77,298,635)
4. SSAP No. 108 Adjustments	
5. Total gain (loss) on termination recognized, Section 2, Column 22	(571,412)
6. Considerations received/(paid) on terminations, Section 2, Column 15	(571,412)
7. Amortization:	
7.1 Section 1, Column 19	
7.2 Section 2, Column 21	
8. Adjustment to the book/adjusted carrying value of hedged item:	
8.1 Section 1, Column 20	
8.2 Section 2, Column 23	
9. Total foreign exchange change in book/adjusted carrying value:	
9.1 Section 1, Column 18	
9.2 Section 2, Column 20	
10. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6+7+8+9)	200,253,708
11. Deduct nonadmitted assets	
12. Statement value at end of current period (Line 10 minus Line 11)	200,253,708

## SCHEDULE DB - PART B - VERIFICATION

Futures Contracts

1. Book/Adjusted carrying value, December 31 of prior year (Line 6, prior year)	
2. Cumulative cash change (Section 1, Broker Name/Net Cash Deposits Footnote - Cumulative Cash Change Column)	
3.1 Add:	
Change in variation margin on open contracts - Highly effective hedges	
3.11 Section 1, Column 15, current year minus	
3.12 Section 1, Column 15, prior year	
Change in variation margin on open contracts - All other	
3.13 Section 1, Column 18, current year minus	
3.14 Section 1, Column 18, prior year	
3.2 Add:	
Change in adjustment to basis of hedged item	
3.21 Section 1, Column 17, current year to date minus	
3.22 Section 1, Column 17, prior year	
Change in amount recognized	
3.23 Section 1, Column 19, current year to date minus	
3.24 Section 1, Column 19, prior year plus	
3.25 SSAP No. 108 Adjustments	
3.3 Subtotal (Line 3.1 minus Line 3.2)	
4.1 Cumulative variation margin on terminated contracts during the year (Section 2, Column 15)	
4.2 Less:	
4.21 Amount used to adjust basis of hedged item (Section 2, Column 17)	
4.22 Amount recognized (Section 2, Column 16)	
4.23 SSAP No. 108 Adjustments	
4.3 Subtotal (Line 4.1 minus Line 4.2)	
5. Dispositions gains (losses) on contracts terminated in prior year:	
5.1 Total gain (loss) recognized for terminations in prior year	
5.2 Total gain (loss) adjusted into the hedged item(s) for terminations in prior year	
6. Book/adjusted carrying value at end of current period (Lines 1+2+3.3-4.3-5.1-5.2)	
7. Deduct total nonadmitted amounts	
8. Statement value at end of current period (Line 6 minus Line 7)	

NONE

Schedule DB - Part C - Section 1 - Replication (Synthetic Asset) Transactions (RSATs) Open

**N O N E**

Schedule DB-Part C-Section 2-Reconciliation of Replication (Synthetic Asset) Transactions Open

**N O N E**

## SCHEDULE DB - VERIFICATION

Verification of Book/Adjusted Carrying Value, Fair Value and Potential Exposure of all Open Derivative Contracts

		Book/Adjusted Carrying Value Check
1.	Part A, Section 1, Column 14.....	200,253,708
2.	Part B, Section 1, Column 15 plus Part B, Section 1 Footnote - Total Ending Cash Balance .....	
3.	Total (Line 1 plus Line 2) .....	200,253,708
4.	Part D, Section 1, Column 6 .....	200,538,487
5.	Part D, Section 1, Column 7 .....	(284,779)
6.	Total (Line 3 minus Line 4 minus Line 5) .....	
		Fair Value Check
7.	Part A, Section 1, Column 16 .....	200,253,708
8.	Part B, Section 1, Column 13 .....	
9.	Total (Line 7 plus Line 8) .....	200,253,708
10.	Part D, Section 1, Column 9 .....	200,538,487
11.	Part D, Section 1, Column 10 .....	(284,779)
12.	Total (Line 9 minus Line 10 minus Line 11) .....	
		Potential Exposure Check
13.	Part A, Section 1, Column 21 .....	4,288,757
14.	Part B, Section 1, Column 20 .....	
15.	Part D, Section 1, Column 12 .....	4,288,757
16.	Total (Line 13 plus Line 14 minus Line 15) .....	



**SCHEDULE E - PART 2 - VERIFICATION BETWEEN YEARS**

(Cash Equivalents)

	1 Total	2 Bonds	3 Money Market Mutual funds	4 Other (a)
1. Book/adjusted carrying value, December 31 of prior year .....	171,468,431	84,588,286	86,880,145	
2. Cost of cash equivalents acquired .....	2,057,221,654	1,244,628,298	812,593,356	
3. Accrual of discount .....				
4. Unrealized valuation increase/(decrease) .....				
5. Total gain (loss) on disposals .....	3,185,456	3,185,456		
6. Deduct consideration received on disposals .....	2,124,185,387	1,268,117,584	856,067,803	
7. Deduct amortization of premium .....				
8. Total foreign exchange change in book/adjusted carrying value .....				
9. Deduct current year's other than temporary impairment recognized .....				
10. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9) .....	107,690,154	64,284,456	43,405,698	
11. Deduct total nonadmitted amounts .....				
12. Statement value at end of current period (Line 10 minus Line 11)	107,690,154	64,284,456	43,405,698	

(a) Indicate the category of such investments, for example, joint ventures, transportation equipment: