



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

ANNUAL STATEMENT
FOR THE YEAR ENDED DECEMBER 31, 2023
OF THE CONDITION AND AFFAIRS 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					
Licensed as business type:	Life, Accident and Health [X] Fraternal Benefit Societies []					
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	Trevor Wade Gordon			617-695-4321		
	(Name)			(Area Code) (Telephone Number)		
	tgordon@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 President and Chief Executive Officer	Akintokunbo Akinbajo Secretary	Julieta Giselle Sinisgalli Treasurer
Subscribed and sworn to before me this	a. Is this an original filing?	Yes [X] No []
day of	b. If no,	
	1. State the amendment number.....	
	2. Date filed	
	3. Number of pages attached.....	

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

ASSETS

	Current Year			Prior Year
	1	2	3	4
	Assets	Nonadmitted Assets	Net Admitted Assets (Cols. 1 - 2)	Net Admitted Assets
1. Bonds (Schedule D)	250,166,363		250,166,363	212,912,558
2. Stocks (Schedule D):				
2.1 Preferred stocks				
2.2 Common stocks	22,971		22,971	22,653
3. Mortgage loans on real estate (Schedule B):				
3.1 First liens	1,335,508		1,335,508	1,657,058
3.2 Other than first liens				
4. Real estate (Schedule A):				
4.1 Properties occupied by the company (less \$				
encumbrances)				
4.2 Properties held for the production of income (less				
\$				
encumbrances)				
4.3 Properties held for sale (less \$				
encumbrances)				
5. Cash (\$	1,010,130			
, Schedule E - Part 1), cash equivalents				
(\$	63,123,354			
, Schedule E - Part 2) and short-term				
investments (\$	2,963,408			
, Schedule DA)	67,096,892		67,096,892	111,900,743
6. Contract loans (including \$	96,298,549		96,298,549	94,031,675
premium notes)				
7. Derivatives (Schedule DB)				
8. Other invested assets (Schedule BA)	183,328		183,328	191,076
9. Receivables for securities				
10. Securities lending reinvested collateral assets (Schedule DL)				
11. Aggregate write-ins for invested assets				
12. Subtotals, cash and invested assets (Lines 1 to 11)	415,103,610		415,103,610	420,715,763
13. Title plants less \$				
charged off (for Title insurers				
only)				
14. Investment income due and accrued	4,363,447		4,363,447	3,925,583
15. Premiums and considerations:				
15.1 Uncollected premiums and agents' balances in the course of collection				
15.2 Deferred premiums, agents' balances and installments booked but				
deferred and not yet due (including \$				
earned but unbilled premiums)	(3,000,546)		(3,000,546)	(3,059,424)
15.3 Accrued retrospective premiums (\$				
) and				
contracts subject to redetermination (\$				
)				
16. Reinsurance:				
16.1 Amounts recoverable from reinsurers	9,235,047	742	9,234,305	7,748,657
16.2 Funds held by or deposited with reinsured companies				
16.3 Other amounts receivable under reinsurance contracts	8,307,413		8,307,413	18,836,219
17. Amounts receivable relating to uninsured plans				
18.1 Current federal and foreign income tax recoverable and interest thereon	1,374,740		1,374,740	
18.2 Net deferred tax asset	2,184,246	687,248	1,496,998	1,715,240
19. Guaranty funds receivable or on deposit	105,702		105,702	109,722
20. Electronic data processing equipment and software				
21. Furniture and equipment, including health care delivery assets				
(\$				
)				
22. Net adjustment in assets and liabilities due to foreign exchange rates				
23. Receivables from parent, subsidiaries and affiliates	146,021		146,021	2,992,034
24. Health care (\$				
) and other amounts receivable				
25. Aggregate write-ins for other than invested assets				
26. Total assets excluding Separate Accounts, Segregated Accounts and				
Protected Cell Accounts (Lines 12 to 25)	437,819,681	687,990	437,131,691	452,983,795
27. From Separate Accounts, Segregated Accounts and Protected Cell				
Accounts	4,672,460,875		4,672,460,875	4,569,883,813
28. Total (Lines 26 and 27)	5,110,280,556	687,990	5,109,592,566	5,022,867,608
DETAILS OF WRITE-INS				
1101.				
1102.				
1103.				
1198. Summary of remaining write-ins for Line 11 from overflow page				
1199. Totals (Lines 1101 thru 1103 plus 1198)(Line 11 above)				
2501.				
2502.				
2503.				
2598. Summary of remaining write-ins for Line 25 from overflow page				
2599. Totals (Lines 2501 thru 2503 plus 2598)(Line 25 above)				

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

LIABILITIES, SURPLUS AND OTHER FUNDS

	1	2
	Current Year	Prior Year
1. Aggregate reserve for life contracts \$141,691,572 (Exh. 5, Line 9999999) less \$ included in Line 6.3 (including \$124,776,730 Modco Reserve)	141,691,572	137,777,901
2. Aggregate reserve for accident and health contracts (including \$ Modco Reserve)		
3. Liability for deposit-type contracts (Exhibit 7, Line 14, Col. 1) (including \$ Modco Reserve)	11,090,594	12,617,802
4. Contract claims:		
4.1 Life (Exhibit 8, Part 1, Line 4.4, Col. 1 less Col. 6)	9,596,059	14,334,995
4.2 Accident and health (Exhibit 8, Part 1, Line 4.4, Col. 6)		
5. Policyholders' dividends/refunds to members \$ and coupons \$ due and unpaid (Exhibit 4, Line 10)		
6. Provision for policyholders' dividends, refunds to members and coupons payable in following calendar year - estimated amounts:		
6.1 Policyholders' dividends and refunds to members apportioned for payment (including \$ Modco)		
6.2 Policyholders' dividends and refunds to members not yet apportioned (including \$ Modco)		
6.3 Coupons and similar benefits (including \$ Modco)		
7. Amount provisionally held for deferred dividend policies not included in Line 6		
8. Premiums and annuity considerations for life and accident and health contracts received in advance less \$ discount; including \$ accident and health premiums (Exhibit 1, Part 1, Col. 1, sum of lines 4 and 14)		
9. Contract liabilities not included elsewhere:		
9.1 Surrender values on canceled contracts		
9.2 Provision for experience rating refunds, including the liability of \$ accident and health experience rating refunds of which \$ is for medical loss ratio rebate per the Public Health Service Act	19,685,486	10,979,627
9.3 Other amounts payable on reinsurance, including \$ assumed and \$18,718,545 ceded	18,718,545	8,514,671
9.4 Interest maintenance reserve (IMR, Line 6)	592,713	832,918
10. Commissions to agents due or accrued-life and annuity contracts \$311,730 accident and health \$ and deposit-type contract funds \$	311,730	303,552
11. Commissions and expense allowances payable on reinsurance assumed		
12. General expenses due or accrued (Exhibit 2, Line 12, Col. 7)		
13. Transfers to Separate Accounts due or accrued (net) (including \$(284,850) accrued for expense allowances recognized in reserves, net of reinsured allowances)	(6,938,952)	4,634,921
14. Taxes, licenses and fees due or accrued, excluding federal income taxes (Exhibit 3, Line 9, Col. 6)	115,220	139,958
15.1 Current federal and foreign income taxes, including \$ on realized capital gains (losses)		1,982,795
15.2 Net deferred tax liability		
16. Unearned investment income		
17. Amounts withheld or retained by reporting entity as agent or trustee	111,294	42,793
18. Amounts held for agents' account, including \$ agents' credit balances		
19. Remittances and items not allocated	250,532	1,497,241
20. Net adjustment in assets and liabilities due to foreign exchange rates		
21. Liability for benefits for employees and agents if not included above		
22. Borrowed money \$ and interest thereon \$		
23. Dividends to stockholders declared and unpaid		
24. Miscellaneous liabilities:		
24.01 Asset valuation reserve (AVR, Line 16, Col. 7)	6,462,012	6,881,096
24.02 Reinsurance in unauthorized and certified (\$) companies		
24.03 Funds held under reinsurance treaties with unauthorized and certified (\$) reinsurers		
24.04 Payable to parent, subsidiaries and affiliates	2,378,698	
24.05 Drafts outstanding		
24.06 Liability for amounts held under uninsured plans		
24.07 Funds held under coinsurance		
24.08 Derivatives		
24.09 Payable for securities		
24.10 Payable for securities lending		
24.11 Capital notes \$ and interest thereon \$		
25. Aggregate write-ins for liabilities	342,287	300,551
26. Total liabilities excluding Separate Accounts business (Lines 1 to 25)	204,407,791	200,840,820
27. From Separate Accounts Statement	4,672,460,875	4,569,883,813
28. Total liabilities (Lines 26 and 27)	4,876,868,667	4,770,724,634
29. Common capital stock	2,500,200	2,500,200
30. Preferred capital stock		
31. Aggregate write-ins for other than special surplus funds		
32. Surplus notes		
33. Gross paid in and contributed surplus (Page 3, Line 33, Col. 2 plus Page 4, Line 51.1, Col. 1)	143,736,914	143,736,914
34. Aggregate write-ins for special surplus funds		
35. Unassigned funds (surplus)	86,486,785	105,905,860
36. Less treasury stock, at cost:		
36.1 shares common (value included in Line 29 \$)		
36.2 shares preferred (value included in Line 30 \$)		
37. Surplus (Total Lines 31+32+33+34+35-36) (including \$0 in Separate Accounts Statement)	230,223,700	249,642,774
38. Totals of Lines 29, 30 and 37 (Page 4, Line 55)	232,723,900	252,142,974
39. Totals of Lines 28 and 38 (Page 2, Line 28, Col. 3)	5,109,592,566	5,022,867,608
DETAILS OF WRITE-INS		
2501. Miscellaneous liabilities	213,132	248,868
2502. Funds awaiting escheat	129,156	51,683
2503.		
2598. Summary of remaining write-ins for Line 25 from overflow page		
2599. Totals (Lines 2501 thru 2503 plus 2598)(Line 25 above)	342,287	300,551
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)		
3401.		
3402.		
3403.		
3498. Summary of remaining write-ins for Line 34 from overflow page		
3499. Totals (Lines 3401 thru 3403 plus 3498)(Line 34 above)		

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

SUMMARY OF OPERATIONS

	1 Current Year	2 Prior Year
1. Premiums and annuity considerations for life and accident and health contracts (Exhibit 1, Part 1, Line 20.4, Col. 1 less Col. 8)	(8,537,471)	976,115
2. Considerations for supplementary contracts with life contingencies	28,563	640,595
3. Net investment income (Exhibit of Net Investment Income, Line 17)	19,105,899	15,112,282
4. Amortization of Interest Maintenance Reserve (IMR, Line 5)	210,737	262,293
5. Separate Accounts net gain from operations excluding unrealized gains or losses		
6. Commissions and expense allowances on reinsurance ceded (Exhibit 1, Part 2, Line 26.1, Col. 1)	10,142,269	10,260,223
7. Reserve adjustments on reinsurance ceded	(81,844,154)	(112,807,912)
8. Miscellaneous Income:		
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts	79,333,419	73,450,776
8.2 Charges and fees for deposit-type contracts		
8.3 Aggregate write-ins for miscellaneous income	(590,304)	(1,401,707)
9. Total (Lines 1 to 8.3)	17,848,957	(13,507,335)
10. Death benefits	54,390,312	58,658,089
11. Matured endowments (excluding guaranteed annual pure endowments)		
12. Annuity benefits (Exhibit 8, Part 2, Line 6.4, Cols. 4 + 5 minus Analysis of Operations Summary, Line 18, Col. 1)	502,292	781,251
13. Disability benefits and benefits under accident and health contracts	401,741	385,892
14. Coupons, guaranteed annual pure endowments and similar benefits		
15. Surrender benefits and withdrawals for life contracts	3,100,476	3,458,507
16. Group conversions		
17. Interest and adjustments on contract or deposit-type contract funds	2,014,494	2,003,830
18. Payments on supplementary contracts with life contingencies	102,424	80,799
19. Increase in aggregate reserves for life and accident and health contracts	3,913,671	(5,507,975)
20. Totals (Lines 10 to 19)	64,425,409	59,860,393
21. Commissions on premiums, annuity considerations, and deposit-type contract funds (direct business only) (Exhibit 1, Part 2, Line 31, Col. 1)	1,841,263	1,873,088
22. Commissions and expense allowances on reinsurance assumed (Exhibit 1, Part 2, Line 26.2, Col. 1)		
23. General insurance expenses and fraternal expenses (Exhibit 2, Line 10, Cols. 1, 2, 3, 4 and 6)	7,821,089	6,520,179
24. Insurance taxes, licenses and fees, excluding federal income taxes (Exhibit 3, Line 7, Cols. 1 + 2 + 3 + 5)	750,553	750,702
25. Increase in loading on deferred and uncollected premiums		
26. Net transfers to or (from) Separate Accounts net of reinsurance	(62,693,553)	(97,338,878)
27. Aggregate write-ins for deductions	(1,349,713)	(1,060,474)
28. Totals (Lines 20 to 27)	10,795,049	(29,394,989)
29. Net gain from operations before dividends to policyholders, refunds to members and federal income taxes (Line 9 minus Line 28)	7,053,908	15,887,654
30. Dividends to policyholders and refunds to members		
31. Net gain from operations after dividends to policyholders, refunds to members and before federal income taxes (Line 29 minus Line 30)	7,053,908	15,887,654
32. Federal and foreign income taxes incurred (excluding tax on capital gains)	(812,660)	1,002,915
33. Net gain from operations after dividends to policyholders, refunds to members and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32)	7,866,568	14,884,739
34. Net realized capital gains (losses) (excluding gains (losses) transferred to the IMR) less capital gains tax of \$(98,693) (excluding taxes of \$ (7,833) transferred to the IMR)	(701,549)	(14,780)
35. Net income (Line 33 plus Line 34)	7,165,019	14,869,959
CAPITAL AND SURPLUS ACCOUNT		
36. Capital and surplus, December 31, prior year (Page 3, Line 38, Col. 2)	252,142,974	265,429,591
37. Net income (Line 35)	7,165,019	14,869,959
38. Change in net unrealized capital gains (losses) less capital gains tax of \$ (67,276)	(311,788)	191,410
39. Change in net unrealized foreign exchange capital gain (loss)		
40. Change in net deferred income tax	(780,354)	(1,063,691)
41. Change in nonadmitted assets	494,095	1,037,047
42. Change in liability for reinsurance in unauthorized and certified companies		
43. Change in reserve on account of change in valuation basis, (increase) or decrease		
44. Change in asset valuation reserve	419,084	(824,846)
45. Change in treasury stock (Page 3, Lines 36.1 and 36.2, Col. 2 minus Col. 1)		
46. Surplus (contributed to) withdrawn from Separate Accounts during period		
47. Other changes in surplus in Separate Accounts Statement		
48. Change in surplus notes		
49. Cumulative effect of changes in accounting principles		
50. Capital changes:		
50.1 Paid in		
50.2 Transferred from surplus (Stock Dividend)		
50.3 Transferred to surplus		
51. Surplus adjustment:		
51.1 Paid in		
51.2 Transferred to capital (Stock Dividend)		
51.3 Transferred from capital		
51.4 Change in surplus as a result of reinsurance		
52. Dividends to stockholders	(25,000,000)	(26,000,000)
53. Aggregate write-ins for gains and losses in surplus	(1,405,130)	(1,496,495)
54. Net change in capital and surplus for the year (Lines 37 through 53)	(19,419,074)	(13,286,616)
55. Capital and surplus, December 31, current year (Lines 36 + 54) (Page 3, Line 38)	232,723,900	252,142,974
DETAILS OF WRITE-INS		
08.301. Management and administrative fees	(1,510,303)	(1,646,078)
08.302. Revenue sharing	814,002	874,610
08.303. Miscellaneous	105,997	(630,238)
08.398. Summary of remaining write-ins for Line 8.3 from overflow page		
08.399. Totals (Lines 08.301 thru 08.303 plus 08.398)(Line 8.3 above)	(590,304)	(1,401,707)
2701. Reinsurance ceded adjustment	(1,404,285)	(1,496,495)
2702. Miscellaneous charges to operations	54,572	436,021
2703.		
2798. Summary of remaining write-ins for Line 27 from overflow page		
2799. Totals (Lines 2701 thru 2703 plus 2798)(Line 27 above)	(1,349,713)	(1,060,474)
5301. Reinsurance ceded adjustment	(1,404,285)	(1,496,495)
5302. Other changes to surplus	(846)	
5303.		
5398. Summary of remaining write-ins for Line 53 from overflow page		
5399. Totals (Lines 5301 thru 5303 plus 5398)(Line 53 above)	(1,405,130)	(1,496,495)

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

CASH FLOW

	1	2
	Current Year	Prior Year
Cash from Operations		
1. Premiums collected net of reinsurance	1,295,406	529,189
2. Net investment income	18,643,994	14,769,872
3. Miscellaneous income	29,631,430	(19,278,017)
4. Total (Lines 1 through 3)	49,570,830	(3,978,956)
5. Benefit and loss related payments	69,266,533	55,490,862
6. Net transfers to Separate Accounts, Segregated Accounts and Protected Cell Accounts	(51,119,681)	(85,460,421)
7. Commissions, expenses paid and aggregate write-ins for deductions	5,210,663	16,367,734
8. Dividends paid to policyholders		
9. Federal and foreign income taxes paid (recovered) net of \$ (6,154) tax on capital gains (losses)	2,438,123	(5,189,433)
10. Total (Lines 5 through 9)	25,795,638	(18,791,258)
11. Net cash from operations (Line 4 minus Line 10)	23,775,192	14,812,302
Cash from Investments		
12. Proceeds from investments sold, matured or repaid:		
12.1 Bonds	9,710,652	5,691,805
12.2 Stocks		
12.3 Mortgage loans	200,403	234,778
12.4 Real estate		
12.5 Other invested assets	1,413	191,076
12.6 Net gains or (losses) on cash, cash equivalents and short-term investments	2,470	(1,479)
12.7 Miscellaneous proceeds		
12.8 Total investment proceeds (Lines 12.1 to 12.7)	9,914,938	6,116,180
13. Cost of investments acquired (long-term only):		
13.1 Bonds	47,992,655	(108,069)
13.2 Stocks		
13.3 Mortgage loans	1,556	4,596
13.4 Real estate		
13.5 Other invested assets	52,369	191,076
13.6 Miscellaneous applications		
13.7 Total investments acquired (Lines 13.1 to 13.6)	48,046,580	87,603
14. Net increase/(decrease) in contract loans and premium notes	2,266,873	3,483,416
15. Net cash from investments (Line 12.8 minus Line 13.7 minus Line 14)	(40,398,515)	2,545,161
Cash from Financing and Miscellaneous Sources		
16. Cash provided (applied):		
16.1 Surplus notes, capital notes		
16.2 Capital and paid in surplus, less treasury stock		
16.3 Borrowed funds		
16.4 Net deposits on deposit-type contracts and other insurance liabilities	(2,185,572)	(3,924,211)
16.5 Dividends to stockholders	25,000,000	26,000,000
16.6 Other cash provided (applied)	(994,956)	3,367,986
17. Net cash from financing and miscellaneous sources (Lines 16.1 to 16.4 minus Line 16.5 plus Line 16.6)	(28,180,528)	(26,556,225)
RECONCILIATION OF CASH, CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS		
18. Net change in cash, cash equivalents and short-term investments (Line 11, plus Lines 15 and 17)	(44,803,851)	(9,198,762)
19. Cash, cash equivalents and short-term investments:		
19.1 Beginning of year	111,900,743	121,099,505
19.2 End of year (Line 18 plus Line 19.1)	67,096,892	111,900,743

Note: Supplemental disclosures of cash flow information for non-cash transactions:

20.0001. Bond conversions and refinancing		1,092,664
20.0002. Transfer of bonds to partnerships and LLCs		191,076

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

ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - SUMMARY

	1	2	3	4	5	6	7	8	9
	Total	Individual Life	Group Life	Individual Annuities	Group Annuities	Accident and Health	Fraternal	Other Lines of Business	YRT Mortality Risk Only
1. Premiums and annuity considerations for life and accident and health contracts	(8,537,471)	(8,542,271)		4,800					
2. Considerations for supplementary contracts with life contingencies	28,563	XXX	XXX	28,563		XXX	XXX		XXX
3. Net investment income	19,105,899	17,448,605	812,648	844,645					
4. Amortization of Interest Maintenance Reserve (IMR)	210,737	185,510	12,370	12,857					
5. Separate Accounts net gain from operations excluding unrealized gains or losses							XXX		
6. Commissions and expense allowances on reinsurance ceded	10,142,269	3,542,933	6,599,336				XXX		
7. Reserve adjustments on reinsurance ceded	(81,844,154)	(58,238,089)	(23,606,065)				XXX		
8. Miscellaneous Income:									
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts	79,333,419	69,351,566	9,565,841	416,012			XXX		
8.2 Charges and fees for deposit-type contracts						XXX	XXX		
8.3 Aggregate write-ins for miscellaneous income	(590,304)	158,982	(805,117)	55,830					
9. Totals (Lines 1 to 8.3)	17,848,957	23,907,236	(7,420,987)	1,362,708					
10. Death benefits	54,390,312	54,390,312				XXX	XXX		
11. Matured endowments (excluding guaranteed annual pure endowments)						XXX	XXX		
12. Annuity benefits	502,292	XXX	XXX	502,292		XXX	XXX		XXX
13. Disability benefits and benefits under accident and health contracts	401,741	401,741					XXX		
14. Coupons, guaranteed annual pure endowments and similar benefits							XXX		
15. Surrender benefits and withdrawals for life contracts	3,100,476	290,403		2,810,073		XXX	XXX		
16. Group conversions							XXX		
17. Interest and adjustments on contract or deposit-type contract funds	2,014,494	1,099,973	251,761	662,759			XXX		
18. Payments on supplementary contracts with life contingencies	102,424			102,424		XXX	XXX		
19. Increase in aggregate reserves for life and accident and health contracts	3,913,671	3,400,562	130,000	383,109			XXX		
20. Totals (Lines 10 to 19)	64,425,409	59,582,991	381,761	4,460,657			XXX		
21. Commissions on premiums, annuity considerations and deposit-type contract funds (direct business only)	1,841,263	618,458	1,193,896	28,909					XXX
22. Commissions and expense allowances on reinsurance assumed							XXX		
23. General insurance expenses and fraternal expenses	7,821,089	7,317,847	353,382	149,861					
24. Insurance taxes, licenses and fees, excluding federal income taxes	750,553	743,204	2,333	5,017					
25. Increase in loading on deferred and uncollected premiums							XXX		
26. Net transfers to or (from) Separate Accounts net of reinsurance	(62,693,553)	(53,920,723)	(5,865,969)	(2,906,861)			XXX		
27. Aggregate write-ins for deductions	(1,349,713)	(1,355,199)	5,797	(311)					
28. Totals (Lines 20 to 27)	10,795,049	12,986,578	(3,928,800)	1,737,271					
29. Net gain from operations before dividends to policyholders, refunds to members and federal income taxes (Line 9 minus Line 28)	7,053,908	10,920,658	(3,492,187)	(374,563)					
30. Dividends to policyholders and refunds to members							XXX		
31. Net gain from operations after dividends to policyholders, refunds to members and before federal income taxes (Line 29 minus Line 30)	7,053,908	10,920,658	(3,492,187)	(374,563)					
32. Federal income taxes incurred (excluding tax on capital gains)	(812,660)	(1,258,261)	402,436	43,164					
33. Net gain from operations after dividends to policyholders, refunds to members and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32)	7,866,568	12,178,919	(3,894,623)	(417,728)					
34. Policies/certificates in force end of year	28,058	24,571	2,992	495			XXX		
DETAILS OF WRITE-INS									
08.301. Management and administrative fees	(1,510,303)	(705,177)	(805,126)						
08.302. Revenue sharing	814,002	758,180		55,821					
08.303. Miscellaneous	105,997	105,979	9	9					
08.398. Summary of remaining write-ins for Line 8.3 from overflow page									
08.399. Totals (Lines 08.301 thru 08.303 plus 08.398) (Line 8.3 above)	(590,304)	158,982	(805,117)	55,830					
2701. Reinsurance ceded adjustment	(1,404,285)	(1,404,285)							
2702. Miscellaneous charges to operations	54,572	49,086	5,797	(311)					
2703.									
2798. Summary of remaining write-ins for Line 27 from overflow page									
2799. Totals (Lines 2701 thru 2703 plus 2798) (Line 27 above)	(1,349,713)	(1,355,199)	5,797	(311)					

ANNUAL STATEMENT FOR THE YEAR 2023 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	12
	Total	Industrial Life	Whole Life	Term Life	Indexed Life	Universal Life	Universal Life With Secondary Guarantees	Variable Life	Variable Universal Life	Credit Life (c)	Other Individual Life	YRT Mortality Risk Only
1. Premiums for life contracts (a)	(8,542,271)							219,934	(8,762,205)			
2. Considerations for supplementary contracts with life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
3. Net investment income	17,448,605							824,311	16,624,294			
4. Amortization of Interest Maintenance Reserve (IMR)	185,510							10,930	174,580			
5. Separate Accounts net gain from operations excluding unrealized gains or losses												
6. Commissions and expense allowances on reinsurance ceded	3,542,933								3,542,933			
7. Reserve adjustments on reinsurance ceded	(58,238,089)								(58,238,089)			
8. Miscellaneous Income:												
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts	69,351,566							405,560	68,946,006			
8.2 Charges and fees for deposit-type contracts												
8.3 Aggregate write-ins for miscellaneous income	158,982							8	158,974			
9. Totals (Lines 1 to 8.3)	23,907,236							1,460,742	22,446,494			
10. Death benefits	54,390,312							111,184	54,279,128			
11. Matured endowments (excluding guaranteed annual pure endowments)												
12. Annuity benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
13. Disability benefits and benefits under accident and health contracts	401,741							6,328	395,413			
14. Coupons, guaranteed annual pure endowments and similar benefits												
15. Surrender benefits and withdrawals for life contracts	290,403							290,373	30			
16. Group conversions												
17. Interest and adjustments on contract or deposit-type contract funds	1,099,973							162	1,099,811			
18. Payments on supplementary contracts with life contingencies												
19. Increase in aggregate reserves for life and accident and health contracts ...	3,400,562							313,620	3,086,942			
20. Totals (Lines 10 to 19)	59,582,991							721,666	58,861,325			
21. Commissions on premiums, annuity considerations and deposit-type contract funds (direct business only)	618,458							560	617,898			XXX
22. Commissions and expense allowances on reinsurance assumed												
23. General insurance expenses	7,317,847							612,963	6,704,884			
24. Insurance taxes, licenses and fees, excluding federal income taxes	743,204							175,660	567,543			
25. Increase in loading on deferred and uncollected premiums												
26. Net transfers to or (from) Separate Accounts net of reinsurance	(53,920,723)							(127,926)	(53,792,797)			
27. Aggregate write-ins for deductions	(1,355,199)							6	(1,355,204)			
28. Totals (Lines 20 to 27)	12,986,578							1,382,929	11,603,649			
29. Net gain from operations before dividends to policyholders, refunds to members and federal income taxes (Line 9 minus Line 28)	10,920,658							77,813	10,842,845			
30. Dividends to policyholders and refunds to members												
31. Net gain from operations after dividends to policyholders, refunds to members and before federal income taxes (Line 29 minus Line 30)	10,920,658							77,813	10,842,845			
32. Federal income taxes incurred (excluding tax on capital gains)	(1,258,261)								(1,258,261)			
33. Net gain from operations after dividends to policyholders, refunds to members and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32)	12,178,919							77,813	12,101,106			
34. Policies/certificates in force end of year	24,571							227	24,344			
DETAILS OF WRITE-INS												
08.301. Revenue sharing	758,180								758,180			
08.302. Miscellaneous	105,979							8	105,971			
08.303. Management and administrative fees	(705,177)								(705,177)			
08.398. Summary of remaining write-ins for Line 8.3 from overflow page												
08.399. Totals (Lines 08.301 thru 08.303 plus 08.398) (Line 8.3 above)	158,982							8	158,974			
2701. Reinsurance ceded adjustment	(1,404,285)								(1,404,285)			
2702. Miscellaneous charges to operations	49,086							6	49,080			
2703.												
2798. Summary of remaining write-ins for Line 27 from overflow page												
2799. Totals (Lines 2701 thru 2703 plus 2798) (Line 27 above)	(1,355,199)							6	(1,355,204)			

(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.

(c) Individual and Group Credit Life are combined and included on page. (Indicate whether included with Individual or Group.)

ANNUAL STATEMENT FOR THE YEAR 2023 OF THE MML Bay State Life Insurance Company
ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - GROUP LIFE INSURANCE (c)

	1	2	3	4	5	6	7	8	9
	Total	Whole Life	Term Life	Universal Life	Variable Life	Variable Universal Life	Credit Life (d)	Other Group Life (a)	YRT Mortality Risk Only
1. Premiums for life contracts ^(b)									
2. Considerations for supplementary contracts with life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
3. Net investment income	812,648					812,648			
4. Amortization of Interest Maintenance Reserve (IMR)	12,370					12,370			
5. Separate Accounts net gain from operations excluding unrealized gains or losses									
6. Commissions and expense allowances on reinsurance ceded	6,599,336					6,599,336			
7. Reserve adjustments on reinsurance ceded	(23,606,065)					(23,606,065)			
8. Miscellaneous Income:									
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts	9,565,841					9,565,841			
8.2 Charges and fees for deposit-type contracts									
8.3 Aggregate write-ins for miscellaneous income	(805,117)					(805,117)			
9. Totals (Lines 1 to 8.3)	(7,420,987)					(7,420,987)			
10. Death benefits									
11. Matured endowments (excluding guaranteed annual pure endowments)									
12. Annuity benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
13. Disability benefits and benefits under accident and health contracts									
14. Coupons, guaranteed annual pure endowments and similar benefits									
15. Surrender benefits and withdrawals for life contracts									
16. Group conversions									
17. Interest and adjustments on contract or deposit-type contract funds	251,761					251,761			
18. Payments on supplementary contracts with life contingencies									
19. Increase in aggregate reserves for life and accident and health contracts	130,000					130,000			
20. Totals (Lines 10 to 19)	381,761					381,761			
21. Commissions on premiums, annuity considerations and deposit-type contract funds (direct business only)	1,193,896					1,193,896			XXX
22. Commissions and expense allowances on reinsurance assumed									
23. General insurance expenses	353,382					353,382			
24. Insurance taxes, licenses and fees, excluding federal income taxes	2,333					2,333			
25. Increase in loading on deferred and uncollected premiums									
26. Net transfers to or (from) Separate Accounts net of reinsurance	(5,865,969)					(5,865,969)			
27. Aggregate write-ins for deductions	5,797					5,797			
28. Totals (Lines 20 to 27)	(3,928,800)					(3,928,800)			
29. Net gain from operations before dividends to policyholders, refunds to members and federal income taxes (Line 9 minus Line 28)	(3,492,187)					(3,492,187)			
30. Dividends to policyholders and refunds to members									
31. Net gain from operations after dividends to policyholders, refunds to members and before federal income taxes (Line 29 minus Line 30)	(3,492,187)					(3,492,187)			
32. Federal income taxes incurred (excluding tax on capital gains)	402,436					402,436			
33. Net gain from operations after dividends to policyholders, refunds to members and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32)	(3,894,623)					(3,894,623)			
34. Policies/certificates in force end of year	2,992					2,992			
DETAILS OF WRITE-INS									
08.301. Management and administrative fees	(805,126)					(805,126)			
08.302. Miscellaneous	9					9			
08.303.									
08.398. Summary of remaining write-ins for Line 8.3 from overflow page									
08.399. Totals (Lines 08.301 thru 08.303 plus 08.398) (Line 8.3 above)	(805,117)					(805,117)			
2701. Miscellaneous charges to operations	5,797					5,797			
2702.									
2703.									
2798. Summary of remaining write-ins for Line 27 from overflow page									
2799. Totals (Lines 2701 thru 2703 plus 2798) (Line 27 above)	5,797					5,797			

(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.
(d) Individual and Group Credit Life are combined and included on page. (Indicate whether included with Individual or Group.)

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

	1 Total	Deferred				6 Life Contingent Payout (Immediate and Annuityizations)	7 Other Annuities
		2 Fixed Annuities	3 Indexed Annuities	4 Variable Annuities with Guarantees	5 Variable Annuities Without Guarantees		
1. Premiums for individual annuity contracts	4,800			4,800			
2. Considerations for supplementary contracts with life contingencies	28,563	XXX	XXX	XXX	XXX	28,563	XXX
3. Net investment income	844,645			279,766			564,879
4. Amortization of Interest Maintenance Reserve (IMR)	12,857			4,259			8,599
5. Separate Accounts net gain from operations excluding unrealized gains or losses							
6. Commissions and expense allowances on reinsurance ceded							
7. Reserve adjustments on reinsurance ceded							
8. Miscellaneous Income:							
8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts	416,012			416,012			
8.2 Charges and fees for deposit-type contracts							
8.3 Aggregate write-ins for miscellaneous income	55,830			55,824		6	
9. Totals (Lines 1 to 8.3)	1,362,708			760,661		28,569	573,478
10. Death benefits							
11. Matured endowments (excluding guaranteed annual pure endowments)							
12. Annuity benefits	502,292			502,292			
13. Disability benefits and benefits under accident and health contracts							
14. Coupons, guaranteed annual pure endowments and similar benefits							
15. Surrender benefits and withdrawals for life contracts	2,810,073			2,810,073			
16. Group conversions							
17. Interest and adjustments on contract or deposit-type contract funds	662,759			4,397		96,880	561,483
18. Payments on supplementary contracts with life contingencies	102,424					102,424	
19. Increase in aggregate reserves for life and accident and health contracts	383,109			383,109			
20. Totals (Lines 10 to 19)	4,460,657			3,699,871		199,303	561,483
21. Commissions on premiums, annuity considerations and deposit-type contract funds (direct business only)	28,909			28,909			
22. Commissions and expense allowances on reinsurance assumed							
23. General insurance expenses	149,861			65,552			84,309
24. Insurance taxes, licenses and fees, excluding federal income taxes	5,017			2,603			2,414
25. Increase in loading on deferred and uncollected premiums							
26. Net transfers to or (from) Separate Accounts net of reinsurance.....	(2,906,861)			(2,906,861)			
27. Aggregate write-ins for deductions	(311)			(311)			
28. Totals (Lines 20 to 27)	1,737,271			889,762		199,303	648,206
29. Net gain from operations before dividends to policyholders, refunds to members and federal income taxes (Line 9 minus Line 28)	(374,563)			(129,101)		(170,734)	(74,728)
30. Dividends to policyholders and refunds to members							
31. Net gain from operations after dividends to policyholders, refunds to members and before federal income taxes (Line 29 minus Line 30)	(374,563)			(129,101)		(170,734)	(74,728)
32. Federal income taxes incurred (excluding tax on capital gains)	43,164			14,877		28,287	
33. Net gain from operations after dividends to policyholders, refunds to members and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32)	(417,728)			(143,978)		(199,021)	(74,728)
34. Policies/certificates in force end of year	495			408			87
DETAILS OF WRITE-INS							
08.301. Revenue sharing	55,821			55,821			
08.302. Miscellaneous	9			3		6	
08.303.							
08.398. Summary of remaining write-ins for Line 8.3 from overflow page							
08.399. Totals (Lines 08.301 thru 08.303 plus 08.398) (Line 8.3 above)	55,830			55,824		6	
2701. Miscellaneous charges to operations	(311)			(311)			
2702.							
2703.							
2798. Summary of remaining write-ins for Line 27 from overflow page							
2799. Totals (Lines 2701 thru 2703 plus 2798) (Line 27 above)	(311)			(311)			

(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 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 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	12
	Total	Industrial Life	Whole Life	Term Life	Indexed Life	Universal Life	Universal Life With Secondary Guarantees	Variable Life	Variable Universal Life	Credit Life ^(b) (N/A Fraternal)	Other Individual Life	YRT Mortality Risk Only
Involving Life or Disability Contingencies (Reserves) (Net of Reinsurance Ceded)												
1. Reserve December 31 of prior year	133,269,643							3,473,487	129,796,156			
2. Tabular net premiums or considerations	1,352,720							219,934	1,132,786			
3. Present value of disability claims incurred												
4. Tabular interest	4,451,083							107,828	4,343,255			
5. Tabular less actual reserve released												
6. Increase in reserve on account of change in valuation basis												
6.1 Change in excess of VM-20 deterministic/stochastic reserve over net premium reserve		XXX								XXX		
7. Other increases (net)	2,762,566							54,822	2,707,744			
8. Totals (Lines 1 to 7)	141,836,012							3,856,071	137,979,941			
9. Tabular cost	27,447,567							331,868	27,115,699			
10. Reserves released by death	43,688,314								43,688,314			
11. Reserves released by other terminations (net)	33,842,943							270,942	33,572,001			
12. Annuity, supplementary contract and disability payments involving life contingencies												
13. Net transfers to or (from) Separate Accounts	(99,813,017)							(533,846)	(99,279,171)			
14. Total Deductions (Lines 9 to 13)	5,165,807							68,964	5,096,843			
15. Reserve December 31 of current year	136,670,205							3,787,107	132,883,098			
Cash Surrender Value and Policy Loans												
16. CSV Ending balance December 31, current year	142,500,194							3,196,624	139,303,570			
17. Amount Available for Policy Loans Based upon Line 16 CSV	114,000,155							2,557,299	111,442,856			

(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.

(b) Individual and Group Credit Life are combined and included on page. (Indicate whether included with Individual or Group.)

ANNUAL STATEMENT FOR THE YEAR 2023 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	9
	Total	Whole Life	Term Life	Universal Life	Variable Life	Variable Universal Life	Credit Life ^(b)	Other Group Life	YRT Mortality Risk Only
Involving Life or Disability Contingencies (Reserves) (Net of Reinsurance Ceded)									
1. Reserve December 31 of prior year	2,100,000					2,100,000			
2. Tabular net premiums or considerations									
3. Present value of disability claims incurred									
4. Tabular interest	63,000					63,000			
5. Tabular less actual reserve released									
6. Increase in reserve on account of change in valuation basis									
7. Other increases (net)	(1,107,351)					(1,107,351)			
8. Totals (Lines 1 to 7)	1,055,649					1,055,649			
9. Tabular cost	5,537,688					5,537,688			
10. Reserves released by death	15,564,278					15,564,278			
11. Reserves released by other terminations (net)									
12. Annuity, supplementary contract and disability payments involving life contingencies									
13. Net transfers to or (from) Separate Accounts	(22,276,317)					(22,276,317)			
14. Total Deductions (Lines 9 to 13)	(1,174,351)					(1,174,351)			
15. Reserve December 31 of current year	2,230,000					2,230,000			
Cash Surrender Value and Policy Loans									
16. CSV Ending balance December 31, current year									
17. Amount Available for Policy Loans Based upon Line 16 CSV									

(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.

(b) Individual and Group Credit Life are combined and included on page. (Indicate whether included with Individual or Group.)

ANNUAL STATEMENT FOR THE YEAR 2023 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		
Involving Life or Disability Contingencies (Reserves) (Net of Reinsurance Ceded)							
1. Reserve December 31 of prior year	2,408,258			2,408,258			
2. Tabular net premiums or considerations	4,800			4,800			
3. Present value of disability claims incurred .....	.XXX	.XXX	.XXX	.XXX	.XXX	.XXX	.XXX
4. Tabular interest	103,997			103,997			
5. Tabular less actual reserve released	(651,690)			(651,690)			
6. Increase in reserve on account of change in valuation basis							
7. Other increases (net)	1,180,396			1,180,396			
8. Totals (Lines 1 to 7)	3,045,761			3,045,761			
9. Tabular cost							
10. Reserves released by death .....	.XXX	.XXX	.XXX	.XXX	.XXX	.XXX	.XXX
11. Reserves released by other terminations (net)	2,810,073			2,810,073			
12. Annuity, supplementary contract and disability payments involving life contingencies	352,663			352,663			
13. Net transfers to or (from) Separate Accounts	(2,908,342)			(2,908,342)			
14. Total Deductions (Lines 9 to 13)	254,394			254,394			
15. Reserve December 31 of current year	2,791,367			2,791,367			
Cash Surrender Value and Policy Loans							
16. CSV Ending balance December 31, current year	1,692,840			1,692,840			
17. Amount Available for Policy Loans Based upon Line 16 CSV							

(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 MML Bay State Life Insurance Company

ANALYSIS OF INCREASE IN RESERVES DURING THE YEAR - GROUP ANNUITIES (a)

(N/A Fraternal)

	1	Deferred				6	7
		2	3	4	5		
	Total	Fixed Annuities	Indexed Annuities	Variable Annuities with Guarantees	Variable Annuities without Guarantees	Life Contingent Payout (Immediate and Annuitizations)	Other Annuities
Involving Life or Disability Contingencies (Reserves) (Net of Reinsurance Ceded)							
1. Reserve December 31 of prior year							
2. Tabular net premiums or considerations							
3. Present value of disability claims incurred .....	..xxx	..xxx	..xxx	..xxx	..xxx	..xxx	..xxx
4. Tabular interest							
5. Tabular less actual reserve released							
6. Increase in reserve on account of change in valuation basis							
7. Other increases (net)							
8. Totals (Lines 1 to 7)							
9. Tabular cost							
10. Reserves released by death .....	..xxx	..xxx	..xxx	..xxx	..xxx	..xxx	..xxx
11. Reserves released by other terminations (net)							
12. Annuity, supplementary contract and disability payments involving life contingencies							
13. Net transfers to or (from) Separate Accounts							
14. Total Deductions (Lines 9 to 13)							
15. Reserve December 31 of current year							
Cash Surrender Value and Policy Loans							
16. CSV Ending balance December 31, current year							
17. Amount Available for Policy Loans Based upon Line 16 CSV							

(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 MML Bay State Life Insurance Company

EXHIBIT OF NET INVESTMENT INCOME

		1	2
		Collected During Year	Earned During Year
1.	U.S. Government bonds	(a) 9,264	..... 172,373
1.1	Bonds exempt from U.S. tax	(a) .....	.....
1.2	Other bonds (unaffiliated)	(a) 8,186,439	..... 8,386,378
1.3	Bonds of affiliates	(a) 34,552	.....
2.1	Preferred stocks (unaffiliated)	(b) .....	.....
2.11	Preferred stocks of affiliates	(b) .....	.....
2.2	Common stocks (unaffiliated) .....	.....	..... 3,866
2.21	Common stocks of affiliates .....	.....	.....
3.	Mortgage loans	(c) (91,321)	..... (91,321)
4.	Real estate	(d) .....	.....
5	Contract loans .....	..... 5,144,384	..... 5,261,497
6	Cash, cash equivalents and short-term investments	(e) 6,468,700	..... 6,468,700
7	Derivative instruments	(f) .....	.....
8.	Other invested assets .....	..... 100,588	..... 100,588
9.	Aggregate write-ins for investment income .....	..... 1,541	..... 1,541
10.	Total gross investment income	19,854,147	20,303,623
11.	Investment expenses		(g) 1,191,805
12.	Investment taxes, licenses and fees, excluding federal income taxes		(g) 5,919
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) .....		..... 1,197,724
17.	Net investment income (Line 10 minus Line 16)		19,105,899
DETAILS OF WRITE-INS			
0901.	Miscellaneous income .....	..... 1,541	..... 1,541
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)	1,541	1,541
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 \$ 391,275 accrual of discount less \$ 257,712 amortization of premium and less \$ 207,779 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 \$ (185) accrual of discount less \$ 122,518 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 \$ 6,468,700 accrual of discount less \$ 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 .....	.....	.....	.....	.....	.....
1.1	Bonds exempt from U.S. tax .....	.....	.....	.....	.....	.....
1.2	Other bonds (unaffiliated) .....	..... (502,428)	..... (337,584)	..... (840,012)	..... (320,678)	.....
1.3	Bonds of affiliates .....	.....	.....	.....	.....	.....
2.1	Preferred stocks (unaffiliated) .....	.....	.....	.....	.....	.....
2.11	Preferred stocks of affiliates .....	.....	.....	.....	.....	.....
2.2	Common stocks (unaffiliated) .....	.....	.....	.....	..... 318	.....
2.21	Common stocks of affiliates .....	.....	.....	.....	.....	.....
3.	Mortgage loans .....	.....	.....	.....	.....	.....
4.	Real estate .....	.....	.....	.....	.....	.....
5.	Contract loans .....	.....	.....	.....	.....	.....
6.	Cash, cash equivalents and short-term investments .....	..... 2,470	.....	..... 2,470	.....	.....
7.	Derivative instruments .....	.....	.....	.....	.....	.....
8.	Other invested assets .....	.....	.....	.....	..... (58,704)	.....
9.	Aggregate write-ins for capital gains (losses) .....	.....	.....	.....	.....	.....
10.	Total capital gains (losses)	(499,958)	(337,584)	(837,542)	(379,064)	
DETAILS OF WRITE-INS						
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)					

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

EXHIBIT - 1 PART 1 - PREMIUMS AND ANNUITY CONSIDERATIONS FOR LIFE AND ACCIDENT AND HEALTH CONTRACTS

	1	2	3	4	5	6	7	8
	Total	Individual Life	Group Life	Individual Annuities	Group Annuities	Accident & Health	Fraternal	Other Lines of Business
FIRST YEAR (other than single)								
1. Uncollected								
2. Deferred and accrued								
3. Deferred , accrued and uncollected:								
3.1 Direct								
3.2 Reinsurance assumed								
3.3 Reinsurance ceded								
3.4 Net (Line 1 + Line 2)								
4. Advance								
5. Line 3.4 - Line 4								
6. Collected during year:								
6.1 Direct								
6.2 Reinsurance assumed								
6.3 Reinsurance ceded	414	414						
6.4 Net	(414)	(414)						
7. Line 5 + Line 6.4	(414)	(414)						
8. Prior year (uncollected + deferred and accrued - advance)								
9. First year premiums and considerations:								
9.1 Direct								
9.2 Reinsurance assumed								
9.3 Reinsurance ceded	414	414						
9.4 Net (Line 7 - Line 8)	(414)	(414)						
SINGLE								
10. Single premiums and considerations:								
10.1 Direct								
10.2 Reinsurance assumed								
10.3 Reinsurance ceded								
10.4 Net								
RENEWAL								
11. Uncollected								
12. Deferred and accrued	(20,612,622)	(20,612,622)						
13. Deferred, accrued and uncollected:								
13.1 Direct	(19,685,486)	(17,612,076)	(2,073,410)					
13.2 Reinsurance assumed								
13.3 Reinsurance ceded	927,136	3,000,546	(2,073,410)					
13.4 Net (Line 11 + Line 12)	(20,612,622)	(20,612,622)						
14. Advance								
15. Line 13.4 - Line 14	(20,612,622)	(20,612,622)						
16. Collected during year:								
16.1 Direct	25,738,166	25,733,366		4,800				
16.2 Reinsurance assumed								
16.3 Reinsurance ceded	24,442,346	24,442,346						
16.4 Net	1,295,820	1,291,020		4,800				
17. Line 15 + Line 16.4	(19,316,802)	(19,321,602)		4,800				
18. Prior year (uncollected + deferred and accrued - advance)	(10,779,745)	(10,779,745)						
19. Renewal premiums and considerations:								
19.1 Direct	17,032,307	15,841,611	1,185,896	4,800				
19.2 Reinsurance assumed								
19.3 Reinsurance ceded	25,569,364	24,383,468	1,185,896					
19.4 Net (Line 17 - Line 18)	(8,537,057)	(8,541,857)		4,800				
TOTAL								
20. Total premiums and annuity considerations:								
20.1 Direct	17,032,307	15,841,611	1,185,896	4,800				
20.2 Reinsurance assumed								
20.3 Reinsurance ceded	25,569,779	24,383,882	1,185,896					
20.4 Net (Lines 9.4 + 10.4 + 19.4)	(8,537,471)	(8,542,271)		4,800				

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

EXHIBIT - 1 PART 2 - POLICYHOLDERS' DIVIDENDS, REFUNDS TO MEMBERS AND COUPONS APPLIED, REINSURANCE COMMISSIONS AND
EXPENSE ALLOWANCES AND COMMISSIONS INCURRED (Direct Business Only)

	1	2	3	4	5	6	7	8
	Total	Individual Life	Group Life	Individual Annuities	Group Annuities	Accident & Health	Fraternal	Other Lines of Business
POLICYHOLDERS' DIVIDENDS, REFUNDS TO MEMBERS AND COUPONS APPLIED (included in Part 1)								
21. To pay renewal premiums								
22. All other								
REINSURANCE COMMISSIONS AND EXPENSE ALLOWANCES INCURRED								
23. First year (other than single):								
23.1 Reinsurance ceded								
23.2 Reinsurance assumed								
23.3 Net ceded less assumed								
24. Single:								
24.1 Reinsurance ceded								
24.2 Reinsurance assumed								
24.3 Net ceded less assumed								
25. Renewal:								
25.1 Reinsurance ceded	10,142,269	3,542,933	6,599,336					
25.2 Reinsurance assumed								
25.3 Net ceded less assumed	10,142,269	3,542,933	6,599,336					
26. Totals:								
26.1 Reinsurance ceded (Page 6, Line 6)	10,142,269	3,542,933	6,599,336					
26.2 Reinsurance assumed (Page 6, Line 22)								
26.3 Net ceded less assumed	10,142,269	3,542,933	6,599,336					
COMMISSIONS INCURRED (direct business only)								
27. First year (other than single)	16,684	16,684						
28. Single								
29. Renewal	1,824,579	601,774	1,193,896	28,909				
30. Deposit-type contract funds								
31. Totals (to agree with Page 6, Line 21)	1,841,263	618,458	1,193,896	28,909				

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

EXHIBIT 2 - GENERAL EXPENSES

		Insurance				5	6	7
		1	Accident and Health		4			
			2	3					All Other Lines of Business
		Life	Cost Containment	All Other		Investment	Fraternal	Total
1.	Rent	261,395				9,617		271,011
2.	Salaries and wages	2,936,683				108,043		3,044,726
3.11	Contributions for benefit plans for employees	357,435				13,150		370,585
3.12	Contributions for benefit plans for agents	316,854				11,657		328,511
3.21	Payments to employees under non-funded benefit plans							
3.22	Payments to agents under non-funded benefit plans							
3.31	Other employee welfare	47,145				1,735		48,879
3.32	Other agent welfare							
4.1	Legal fees and expenses	57,267				2,107		59,374
4.2	Medical examination fees	60,740				2,235		62,975
4.3	Inspection report fees							
4.4	Fees of public accountants and consulting actuaries	18,740				689		19,430
4.5	Expense of investigation and settlement of policy claims	13,040				480		13,519
5.1	Traveling expenses	64,166				2,361		66,527
5.2	Advertising	299,492				11,019		310,510
5.3	Postage, express, telegraph and telephone	49,619				1,826		51,445
5.4	Printing and stationery	12,722				468		13,190
5.5	Cost or depreciation of furniture and equipment ...	92,262				3,394		95,656
5.6	Rental of equipment	19,069				702		19,771
5.7	Cost or depreciation of EDP equipment and software	337,087				12,402		349,489
6.1	Books and periodicals	12,532				461		12,993
6.2	Bureau and association fees	19,325				711		20,036
6.3	Insurance, except on real estate	43,696				1,608		45,304
6.4	Miscellaneous losses	40,027				1,473		41,500
6.5	Collection and bank service charges	15,661				576		16,238
6.6	Sundry general expenses	5,090				187		5,277
6.7	Group service and administration fees	1,409,362				51,851		1,461,213
6.8	Reimbursements by uninsured plans							
7.1	Agency expense allowance	773,873				28,471		802,345
7.2	Agents' balances charged off (less \$ recovered)							
7.3	Agency conferences other than local meetings	69,453				2,555		72,008
8.1	Official publication (Fraternal Benefit Societies Only)	XXX	XXX	XXX	XXX	XXX		
8.2	Expense of supreme lodge meetings (Fraternal Benefit Societies Only)	XXX	XXX	XXX	XXX	XXX		
9.1	Real estate expenses							
9.2	Investment expenses not included elsewhere					921,399		921,399
9.3	Aggregate write-ins for expenses	488,354				629		488,983
10.	General expenses incurred	7,821,089				1,191,805	(b)	(a) 9,012,894
11.	General expenses unpaid Dec. 31, prior year							
12.	General expenses unpaid Dec. 31, current year ...	2,064,155				314,543		2,378,698
13.	Amounts receivable relating to uninsured plans, prior year							
14.	Amounts receivable relating to uninsured plans, current year							
15.	General expenses paid during year (Lines 10+11-12-13+14)	5,756,934				877,262		6,634,196
DETAILS OF WRITE-INS								
09.301.	Management services income	471,258						471,258
09.302.	Miscellaneous	17,095				629		17,724
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)	488,354				629		488,983

(a) Includes management fees of \$ 8,393,001 to affiliates and \$ to non-affiliates.

(b) Show the distribution of this amount in the following categories (Fraternal Benefit Societies Only):

1. Charitable\$; 2. Institutional . \$; 3. Recreational and Health \$; 4. Educational\$

5. Religious\$; 6. Membership \$; 7. Other\$; 8. Total\$

EXHIBIT 3 - TAXES, LICENSES AND FEES (EXCLUDING FEDERAL INCOME TAXES)

	Insurance			4 Investment	5 Fraternal	6 Total
	1 Life	2 Accident and Health	3 All Other Lines of Business			
1. Real estate taxes						
2. State insurance department licenses and fees	87,100					87,100
3. State taxes on premiums	357,128					357,128
4. Other state taxes, including \$ for employee benefits	61,583					61,583
5. U.S. Social Security taxes	244,743			5,919		250,662
6. All other taxes						
7. Taxes, licenses and fees incurred	750,553			5,919		756,473
8. Taxes, licenses and fees unpaid Dec. 31, prior year	138,980			978		139,958
9. Taxes, licenses and fees unpaid Dec. 31, current year.....	114,318			902		115,220
10. Taxes, licenses and fees paid during year (Lines 7 + 8 - 9)	775,215			5,996		781,211

EXHIBIT 4 - DIVIDENDS OR REFUNDS

	1 Life	2 Accident and Health
1. Applied to pay renewal premiums		
2. Applied to shorten the endowment or premium-paying period		
3. Applied to provide paid-up additions		
4. Applied to provide paid-up annuities		
5. Total Lines 1 through 4		
6. Paid in cash		
7. Left on deposit		
8. Aggregate write-ins for dividend or refund options		
9. Total Lines 5 through 8		
10. Amount due and unpaid		
11. Provision for dividends or refunds payable in the following calendar year		
12. Terminal dividends		
13. Provision for deferred dividend contracts		
14. Amount provisionally held for deferred dividend contracts not included in Line 13		
15. Total Lines 10 through 14		
16. Total from prior year		
17. Total dividends or refunds (Lines 9 + 15 - 16)		
DETAILS OF WRITE-INS		
0801.		
0802.		
0803.		
0898. Summary of remaining write-ins for Line 8 from overflow page		
0899. Totals (Lines 0801 thru 0803 plus 0898) (Line 8 above)		

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

EXHIBIT 5 - AGGREGATE RESERVE FOR LIFE CONTRACTS

1	2	3	4	5	6
Valuation Standard	Total ^(a)	Industrial	Ordinary	Credit (Group and Individual)	Group
0100001. 58 CET NLP 4.00%	1,070,808		1,070,808		
0100002. 58 CSO CRVM 4.50%	965		965		
0100003. 58 CSO Mod CRVM 4.00%	12,013		12,013		
0100004. 80 CSO CRVM 4.50%	98,474,023		98,474,023		
0100005. 80 CSO CRVM 5.50%	47,012,956		47,012,956		
0100006. 80 CSO NLP 4.00%	1,898		1,898		
0100007. 80 CSO 3.00%	2,230,000				2,230,000
0100008. 80 CSO 4.00%	9,845		9,845		
0199997. Totals (Gross)	148,812,508		146,582,508		2,230,000
0199998. Reinsurance ceded	21,049,905		21,049,905		
0199999. Life Insurance: Totals (Net)	127,762,603		125,532,603		2,230,000
0200001. 1994 MGB Table 1Y/FIG DEF	1,692,882	XXX	1,692,882	XXX	
0200002. a-2000 4.50% BOTH	52	XXX	52	XXX	
0200003. a-2000 1.25% BOTH	22,573	XXX	22,573	XXX	
0200004. a-2012 1.50% BOTH	91,459	XXX	91,459	XXX	
0200005. a-2012 1.75% BOTH	154,653	XXX	154,653	XXX	
0200006. a-2012 2.25% BOTH	25,062	XXX	25,062	XXX	
0200007. a-2012 3.00% BOTH	68,444	XXX	68,444	XXX	
0200008. a-2012 3.50% BOTH	43,677	XXX	43,677	XXX	
0200009. a-2012 3.75% BOTH	457,624	XXX	457,624	XXX	
0200010. a-2012 4.00% BOTH	137,926	XXX	137,926	XXX	
0200011. a-2012 4.50% BOTH	15,549	XXX	15,549	XXX	
0200012. a-2012 5.00% BOTH	75,817	XXX	75,817	XXX	
0299997. Totals (Gross)	2,785,718	XXX	2,785,718	XXX	
0299998. Reinsurance ceded		XXX		XXX	
0299999. Annuities: Totals (Net)	2,785,718	XXX	2,785,718	XXX	
0399998. Reinsurance ceded					
0399999. SCWLC: Totals (Net)					
0400001. 59 ADB & 58 CSO 4.50%	1,856		1,856		
0499997. Totals (Gross)	1,856		1,856		
0499998. Reinsurance ceded					
0499999. Accidental Death Benefits: Totals (Net)	1,856		1,856		
0500001. 35-39 INTERCO + 80 CSO 4.00%	20,215		20,215		
0500002. 35-39 INTERCO + 58 CSO 3.50%	1,350		1,350		
0599997. Totals (Gross)	21,565		21,565		
0599998. Reinsurance ceded					
0599999. Disability-Active Lives: Totals (Net)	21,565		21,565		
0600001. MOD 52 DISAB TABLE BEN 5 4.00%	251,416		251,416		
0600002. MOD 52 DISAB TABLE BEN 5 4.50%	6,251,085		6,251,085		
0600003. MOD 52 DISAB TABLE BEN 5 5.50%	1,895,271		1,895,271		
0699997. Totals (Gross)	8,397,772		8,397,772		
0699998. Reinsurance ceded					
0699999. Disability-Disabled Lives: Totals (Net)	8,397,772		8,397,772		
0700001. MIN. DEATH BENEFIT	121,633		121,633		
0700002. POLICY LOANS	2,113,803		2,113,803		
0700003. TERM COST RESERVE	583		583		
0700004. VLI COI	480,390		480,390		
0700005. VM21 Reserve	5,649		5,649		
0799997. Totals (Gross)	2,722,058		2,722,058		
0799998. Reinsurance ceded					
0799999. Miscellaneous Reserves: Totals (Net)	2,722,058		2,722,058		
9999999. Totals (Net) - Page 3, Line 1	141,691,572		139,461,572		2,230,000

(a) Included in the above table are amounts of deposit-type contracts that originally contained a mortality risk. Amounts of deposit-type contracts in Column 2 that no longer contain a mortality risk are Life Insurance \$; Annuities \$; Supplementary Contracts with Life Contingencies \$; Accidental Death Benefits \$; Disability - Active Lives \$; Disability - Disabled Lives \$; Miscellaneous Reserves \$

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

EXHIBIT 5 - INTERROGATORIES

1.1

Has the reporting entity ever issued both participating and non-participating contracts?.....

Yes [] No [X]

1.2

If not, state which kind is issued.
Non-participating

2.1

Does the reporting entity at present issue both participating and non-participating contracts?.....

Yes [] No [X]

2.2

If not, state which kind is issued.
Non-participating

3.

Does the reporting entity at present issue or have in force contracts that contain non-guaranteed elements?.....

Yes [X] No []

If so, attach a statement that contains the determination procedures, answers to the interrogatories and an actuarial opinion as described in the instructions.

4.

Has the reporting entity any assessment or stipulated premium contracts in force?.....

Yes [] No [X]

If so, state:
4.1 Amount of insurance?\$.....
4.2 Amount of reserve?\$.....
4.3 Basis of reserve:
.....
4.4 Basis of regular assessments:
.....
4.5 Basis of special assessments:
.....
4.6 Assessments collected during the year\$.....

5.

If the contract loan interest rate guaranteed in any one or more of its currently issued contracts is less than 5%, not in advance, state the contract loan rate guarantees on any such contracts.
.....

6.

Does the reporting entity hold reserves for any annuity contracts that are less than the reserves that would be held on a standard basis?

Yes [] No [X]

6.1

If so, state the amount of reserve on such contracts on the basis actually held:.....

\$.....

6.2

That would have been held (on an exact or approximate basis) using the actual ages of the annuitants; the interest rate(s) used in 6.1; and the same mortality basis used by the reporting entity for the valuation of comparable annuity benefits issued to standard lives. If the reporting entity has no comparable annuity benefits for standard lives to be valued, the mortality basis shall be the table most recently approved by the state of domicile for valuing individual annuity benefits:

\$.....

Attach statement of methods employed in their valuation.

7.

Does the reporting entity have any Synthetic GIC contracts or agreements in effect as of December 31 of the current year?

Yes [] No [X]

7.1

If yes, state the total dollar amount of assets covered by these contracts or agreements

\$.....

7.2

Specify the basis (fair value, amortized cost, etc.) for determining the amount:

7.3

State the amount of reserves established for this business:

\$.....

7.4

Identify where the reserves are reported in the blank:

8.

Does the reporting entity have any Contingent Deferred Annuity contracts or agreements in effect as of December 31 of the current year?

Yes [] No [X]

8.1

If yes, state the total dollar amount of account value covered by these contracts or agreements:

\$.....

8.2

State the amount of reserves established for this business:

\$.....

8.3

Identify where the reserves are reported in the blank:

9.

Does the reporting entity have any Guaranteed Lifetime Income Benefit contracts, agreements or riders in effect as of December 31 of the current year?

Yes [] No [X]

9.1

If yes, state the total dollar amount of any account value associated with these contracts, agreements or riders:

\$.....

9.2

State the amount of reserves established for this business:

\$.....

9.3

Identify where the reserves are reported in the blank:

EXHIBIT 5A - CHANGES IN BASES OF VALUATION DURING THE YEAR

1	Valuation Basis		4
	2	3	
Description of Valuation Class	Changed From	Changed To	Increase in Actuarial Reserve Due to Change
9999999 - Total (Column 4, only)			

NONE

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

EXHIBIT 6 - AGGREGATE RESERVES FOR ACCIDENT AND HEALTH CONTRACTS ^(a)

	1 Total	Comprehensive		4 Medicare Supplement	5 Vision Only	6 Dental Only	7 Federal Employees Health Benefits Plan	8 Title XVIII Medicare	9 Title XIX Medicaid	10 Credit A&H	11 Disability Income	12 Long-Term Care	13 Other Health
		2 Individual	3 Group										
ACTIVE LIFE RESERVE													
1. Unearned premium reserves													
2. Additional contract reserves (b)													
3. Additional actuarial reserves-Asset/Liability analysis													
4. Reserve for future contingent benefits													
5. Reserve for rate credits													
6. Aggregate write-ins for reserves													
7. Totals (Gross)													
8. Reinsurance ceded													
9. Totals (Net)													
CLAIM RESERVE													
10. Present value of amounts not yet due on claims													
11. Additional actuarial reserves-Asset/Liability analysis													
12. Reserve for future contingent benefits													
13. Aggregate write-ins for reserves													
14. Totals (Gross)													
15. Reinsurance ceded													
16. Totals (Net)													
17. TOTAL (Net)													
18. TABULAR FUND INTEREST													
DETAILS OF WRITE-INS													
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)													
1301.													
1302.													
1303.													
1398. Summary of remaining write-ins for Line 13 from overflow page													
1399. TOTALS (Lines 1301 thru 1303 plus 1398) (Line 13 above)													

(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.

(b) Attach statement as to valuation standard used in calculating this reserve, specifying reserve bases, interest rates and methods.

EXHIBIT 7 - 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 before reinsurance	12,617,803		125,671	12,492,132		
2. Deposits received during the year	773,471			773,471		
3. Investment earnings credited to the account	658,363			658,363		
4. Other net change in reserves			(90,639)	90,639		
5. Fees and other charges assessed						
6. Surrender charges						
7. Net surrender or withdrawal payments	2,959,043			2,959,043		
8. Other net transfers to or (from) Separate Accounts						
9. Balance at the end of current year before reinsurance (Lines 1+2+3+4-5-6-7-8) (a)	11,090,594		35,032	11,055,562		
10. Reinsurance balance at the beginning of the year						
11. Net change in reinsurance assumed						
12. Net change in reinsurance ceded						
13. Reinsurance balance at the end of the year (Lines 10+11-12)						
14. Net balance at the end of current year after reinsurance (Lines 9 + 13)	11,090,594		35,032	11,055,562		

(a) FHLB Funding Agreements:

1. Reported as GICs (captured in column 2) \$
2. Reported as Annuities Certain (captured in column 3) \$
3. Reported as Supplemental Contracts (captured in column 4) \$
4. Reported as Dividend Accumulations or Refunds (captured in column 5) \$
5. Reported as Premium or Other Deposit Funds (captured in column 6) \$
6. Total Reported as Deposit-Type Contracts (captured in column 1): (Sum of Lines 1 through 5) . \$

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

EXHIBIT 8 - CLAIMS FOR LIFE AND ACCIDENT AND HEALTH CONTRACTS

PART 1 - Liability End of Current Year

		1	2	3	4	5	6	7	8
		Total	Individual Life	Group Life	Individual Annuities	Group Annuities	Accident & Health	Fraternal	Other Lines of Business
1.	Due and unpaid:								
	1.1 Direct								
	1.2 Reinsurance assumed								
	1.3 Reinsurance ceded								
	1.4 Net								
2.	In course of settlement:								
	2.1 Resisted								
	2.11 Direct								
	2.12 Reinsurance assumed								
	2.13 Reinsurance ceded								
	2.14 Net		(b)	(b)	(b)				
	2.2 Other								
	2.21 Direct	24,906,629	14,649,175	10,257,454					
	2.22 Reinsurance assumed								
	2.23 Reinsurance ceded	16,037,533	5,780,079	10,257,454					
	2.24 Net	8,869,096	(b) 8,869,096	(b)	(b)		(b)		
3.	Incurred but unreported:								
	3.1 Direct	1,123,863	1,123,863						
	3.2 Reinsurance assumed								
	3.3 Reinsurance ceded	396,900	396,900						
	3.4 Net	726,963	(b) 726,963	(b)	(b)		(b)		
4.	TOTALS								
	4.1 Direct	26,030,492	15,773,038	10,257,454					
	4.2 Reinsurance assumed								
	4.3 Reinsurance ceded	16,434,433	6,176,979	10,257,454					
	4.4 Net	9,596,059	(a) 9,596,059	(a)					

(a) Including matured endowments (but not guaranteed annual pure endowments) unpaid amounting to \$ in Column 2 and \$ in Column 3.

(b) Include only portion of disability and accident and health claim liabilities applicable to assumed "accrued" benefits. Reserves (including reinsurance assumed and net of reinsurance ceded) for unaccrued benefits for Individual Life \$ Group Life \$, and Individual Annuities \$ are included in Page 3, Line 1, (See Exhibit 5, Section on Disability Disabled Lives); and for Accident and Health \$ are included in Page 3, Line 2 (See Exhibit 6, Claim Reserve).

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

EXHIBIT 8 - CLAIMS FOR LIFE AND ACCIDENT AND HEALTH CONTRACTS

PART 2 - Incurred During the Year

	1	2	3	4	5	6	7	8
	Total	Individual Life (a)	Group Life (b)	Individual Annuities	Group Annuities	Accident & Health	Fraternal	Other Lines of Business
1. Settlements During the Year:								
1.1 Direct	108,908,828	92,982,943	15,321,170	604,716				
1.2 Reinsurance assumed								
1.3 Reinsurance ceded	47,286,733	35,732,939	11,553,795					
1.4 Net (c)	61,622,095	57,250,004	3,767,375	604,716				
2. Liability December 31, current year from Part 1:								
2.1 Direct	26,030,492	15,773,038	10,257,454					
2.2 Reinsurance assumed								
2.3 Reinsurance ceded	16,434,433	6,176,979	10,257,454					
2.4 Net	9,596,059	9,596,059						
3. Amounts recoverable from reinsurers December 31, current year	9,235,047	3,485,974	5,749,073					
4. Liability December 31, prior year:								
4.1 Direct	23,293,069	20,497,174	2,795,895					
4.2 Reinsurance assumed								
4.3 Reinsurance ceded	8,958,074	6,162,179	2,795,895					
4.4 Net	14,334,995	14,334,995						
5. Amounts recoverable from reinsurers December 31, prior year	7,748,657	5,766,960	1,981,697					
6. Incurred Benefits								
6.1 Direct	111,646,251	88,258,806	22,782,729	604,716				
6.2 Reinsurance assumed								
6.3 Reinsurance ceded	56,249,482	33,466,753	22,782,729					
6.4 Net	55,396,769	54,792,053		604,716				

(a) Including matured endowments (but not guaranteed annual pure endowments) amounting to \$ in Line 1.1, \$ in Line 1.4.
\$..... in Line 6.1, and \$ in Line 6.4.

(b) Including matured endowments (but not guaranteed annual pure endowments) amounting to \$ in Line 1.1, \$ in Line 1.4.
\$..... in Line 6.1, and \$ in Line 6.4.

(c) Includes \$ 404,475 premiums waived under total and permanent disability benefits.

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

EXHIBIT OF NON-ADMITTED ASSETS

	1	2	3
	Current Year Total Nonadmitted Assets	Prior Year Total Nonadmitted Assets	Change in Total Nonadmitted Assets (Col. 2 - Col. 1)
1. Bonds (Schedule D)			
2. Stocks (Schedule D):			
2.1 Preferred stocks			
2.2 Common stocks			
3. Mortgage loans on real estate (Schedule B):			
3.1 First liens			
3.2 Other than first liens.....			
4. Real estate (Schedule A):			
4.1 Properties occupied by the company			
4.2 Properties held for the production of income.....			
4.3 Properties held for sale			
5. Cash (Schedule E - Part 1), cash equivalents (Schedule E - Part 2) and short-term investments (Schedule DA)			
6. Contract loans			
7. Derivatives (Schedule DB)			
8. Other invested assets (Schedule BA)			
9. Receivables for securities			
10. Securities lending reinvested collateral assets (Schedule DL)			
11. Aggregate write-ins for invested assets			
12. Subtotals, cash and invested assets (Lines 1 to 11)			
13. Title plants (for Title insurers only)			
14. Investment income due and accrued			
15. Premiums and considerations:			
15.1 Uncollected premiums and agents' balances in the course of collection			
15.2 Deferred premiums, agents' balances and installments booked but deferred and not yet due .			
15.3 Accrued retrospective premiums and contracts subject to redetermination			
16. Reinsurance:			
16.1 Amounts recoverable from reinsurers	742		(742)
16.2 Funds held by or deposited with reinsured companies			
16.3 Other amounts receivable under reinsurance contracts			
17. Amounts receivable relating to uninsured plans			
18.1 Current federal and foreign income tax recoverable and interest thereon			
18.2 Net deferred tax asset	687,248	1,182,085	494,837
19. Guaranty funds receivable or on deposit			
20. Electronic data processing equipment and software			
21. Furniture and equipment, including health care delivery assets			
22. Net adjustment in assets and liabilities due to foreign exchange rates			
23. Receivables from parent, subsidiaries and affiliates			
24. Health care and other amounts receivable			
25. Aggregate write-ins for other than invested assets			
26. Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25)	687,990	1,182,085	494,095
27. From Separate Accounts, Segregated Accounts and Protected Cell Accounts			
28. Total (Lines 26 and 27)	687,990	1,182,085	494,095
DETAILS OF WRITE-INS			
1101.			
1102.			
1103.			
1198. Summary of remaining write-ins for Line 11 from overflow page			
1199. Totals (Lines 1101 thru 1103 plus 1198)(Line 11 above)			
2501.			
2502.			
2503.			
2598. Summary of remaining write-ins for Line 25 from overflow page			
2599. Totals (Lines 2501 thru 2503 plus 2598)(Line 25 above)			

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NOTES TO FINANCIAL STATEMENTS

Note 1 – Summary of Significant Accounting Policies and Going Concern

- a. Accounting practices:
The accompanying financial statements of MML Bay State Life Insurance Company (the Company) have been prepared in conformity with the Statutory Accounting Practices (SAP) of the National Association of Insurance Commissioners (NAIC) and the accounting practices prescribed or permitted by the State of Connecticut Insurance Department.

A reconciliation of the Company's net income and capital and surplus between NAIC SAP and practices prescribed and permitted by the State of Connecticut is shown below:

	SSAP #	F/S Page	F/S Line #	2023	2022
NET INCOME					
(1) State basis (Page 4, Line 35, Columns 1 & 2)	XXX	XXX	XXX	\$ 7,165,019	\$ 14,869,959
(2) State prescribed practices that increase/(decrease) NAIC SAP:	N/A	N/A	N/A	-	-
(3) State permitted practices that increase/(decrease) NAIC SAP:	N/A	N/A	N/A	-	-
(4) NAIC SAP (1-2-3=4)	XXX	XXX	XXX	\$ 7,165,019	\$ 14,869,959
SURPLUS					
(5) State basis (Page 3, Line 38, Columns 1 & 2)	XXX	XXX	XXX	\$ 232,723,900	\$ 252,142,975
(6) State prescribed practices that increase/(decrease) NAIC SAP:	N/A	N/A	N/A	-	-
(7) State permitted practices that increase/(decrease) NAIC SAP:	N/A	N/A	N/A	-	-
(8) NAIC SAP (5-6-7=8)	XXX	XXX	XXX	\$ 232,723,900	\$ 252,142,975

- b. Use of estimates in the preparation of the financial statements:
The preparation of financial statements requires management to make estimates and assumptions that impact the reported amounts of assets and liabilities, the disclosure of assets and liabilities as of the date of the statutory financial statements and the reported amounts of revenues and expenses during the reporting periods. The most significant estimates include those used in determining the carrying values of investments including the amount of mortgage loan investment valuation reserves, other-than-temporary impairment(s) (OTTI), the liabilities for policyholders' reserves, the determination of admissible deferred tax assets (DTAs), the liability for taxes and litigation contingencies. Future events including, but not limited to, changes in the level of mortality, morbidity, interest rates, persistency, asset valuations and defaults could cause results to differ from the estimates used in the statutory financial statements. Although some variability is inherent in these estimates, management believes the amounts presented are appropriate.
- c. Accounting policy:
Life insurance premium revenue is generally recognized annually on the anniversary date of the policy. However, premium for flexible products, primarily universal life and variable universal life contracts, is recognized as revenue when received. Annuity premium is recognized as revenue when received. Expenses incurred in connection with acquiring new insurance business, including certain acquisition costs, such as commissions, are charged to current operations as incurred. Policy loans are carried at the outstanding loan balance less amounts unsecured by the cash surrender value of the policy. Unsecured amounts can occur when subsequent charges are incurred on the underlying policy without the receipt of additional premium. Where applicable, the values of invested assets have been adjusted for impairments considered OTTI.

In addition, the Company uses the following accounting policies:

- (1) Short-term investments, which are carried at amortized cost, consist of all highly liquid investments purchased with maturities of greater than three months and less than or equal to 12 months. Investments in short-term bonds are classified as short-term investments.
- (2) Bonds are generally valued at amortized cost using the constant yield interest method with the exception of NAIC Category 6 bonds, which are in or near default, and certain residential mortgage-backed securities (RMBS) and commercial mortgage-backed securities (CMBS), which are rated by outside modelers, which are carried at the lower of amortized cost or fair value. NAIC ratings are applied to bonds and other securities. Categories 1 and 2 are considered investment grade, while Categories 3 through 6 are considered below investment grade. Bond transactions are recorded on a trade date basis, except for private placement bonds, which are recorded on the funding date.

The fair value of bonds is based on quoted market prices when available. If quoted market prices are not available, values provided by other third-party organizations are used. If values provided by other third-party organizations are unavailable, fair value is estimated using internal models by discounting expected future cash flows using observable current market rates applicable to yield, credit quality and maturity of the investment or using quoted market values for comparable investments. Internal inputs used in the determination of fair value include estimated prepayment speeds, default rates, discount rates and collateral values, among others. Structure characteristics and cash flow priority are also considered. Fair values resulting from internal models are those expected to be received in an orderly transaction between willing market participants.

Refer to Note 1c. "Accounting policy" (14) for information on the Company's policy for determining OTTI.

- (3) Unaffiliated common stocks are carried at fair value, which is based on quoted market prices when available. If quoted market prices are not available, values provided by third-party organizations are used. If values from third parties are unavailable, fair values are determined by management using estimates based upon internal models. The Company's internal models include estimates based upon comparable company analysis, review of financial statements, broker quotes and last traded price. Fair values resulting from internal models are those expected to be received in an orderly transaction between willing market participants.

Refer to Note 1c. "Accounting policy" (14) for information on the Company's policy for determining OTTI.

The Company did not hold unaffiliated common stocks, for which the transfer of ownership was restricted by contractual requirements, as of December 31, 2023. The Company held unaffiliated common stocks, for which the transfer of ownership was restricted by contractual requirements, with a carrying value of \$22,653 as of December 31, 2022.

- (4) As of December 31, 2023 and 2022, the Company did not hold any preferred stocks.
- (5) Mortgage loans are valued at the unpaid principal balance of the loan, net of unamortized premium, discount, mortgage origination fees and valuation allowances. Mortgage loans comprised primarily seasoned pools of homogeneous residential mortgage loans substantially backed by Federal Housing Administration (FHA) and Veterans Administration (VA) guarantees.

NOTES TO FINANCIAL STATEMENTS

- (6) For loan-backed and structured securities, such as asset-backed securities (ABS), mortgage-backed securities (MBS), including RMBS and CMBS, and structured securities, including collateralized debt obligations (CDOs), amortization or accretion is revalued quarterly based on the current estimated cash flows, using either the prospective or retrospective adjustment methodologies.

Certain fixed income securities, with the highest ratings from a rating agency follow the retrospective method of accounting. Under the retrospective method, the recalculated effective yield equates the present value of the actual and anticipated cash flows, including new prepayment assumptions, to the original cost of the investment. Prepayment assumptions are based on borrower constraints and economic incentives such as the original term, age and coupon of the loan as affected by the interest rate environment. The current carrying value is then increased or decreased to the amount that would have resulted had the revised yield been applied since inception, and investment income is correspondingly decreased or increased.

All other fixed income securities, such as floating rate bonds and interest only securities, including those that have been impaired, follow the prospective method of accounting. Under the prospective method, the recalculated future effective yield equates the carrying value of the investment to the present value of the anticipated future cash flows.

Refer to Note 1c. "Accounting policy" (14) for information on the Company's policy for determining OTTI.

- (7) The Company did not own any subsidiaries and did not hold any investments in controlled or affiliated companies.
- (8) The Company did not have any investments in joint ventures, partnerships or limited liability companies (LLCs).
- (9) The Company did not have any derivative financial instruments.
- (10) The Company does not utilize anticipated investment income as a factor in the premium deficiency calculation in accordance with Statutory Accounting Principles (SSAP) No. 54 "Individual and Group Accident and Health Contracts."
- (11) The Company does not have disability of long-term care contracts therefore it does not have any unpaid claim of claim expense reserves related to these products.
- (12) The Company has not modified its capitalization policy from the prior period.
- (13) The Company did not issue any business that would give rise to pharmaceutical rebates or risk sharing receivables.
- (14) The book values of investments are written down when declines in values are considered to be other than temporary.

Bonds - general

The Company employs a systematic methodology to evaluate OTTI by conducting a quarterly analysis of bonds. OTTI is evaluated in a manner consistent with market participant assumptions. The Company considers the following factors, where applicable depending on the type of securities, in the evaluation of whether a decline in value is other than temporary: (a) the likelihood that the Company will be able to collect all amounts due according to the contractual terms of the debt security; (b) the present value of the expected future cash flows of the security; (c) the characteristics, quality and value of the underlying collateral or issuer securing the position; (d) collateral structure; (e) the length of time and extent to which the fair value has been below amortized cost; (f) the financial condition and near-term prospects of the issuer; (g) adverse conditions related to the security or industry; (h) the rating of the security; (i) the Company's ability and intent to hold the investment for a period of time sufficient to allow for an anticipated recovery to amortized cost; and (j) other qualitative and quantitative factors in determining the existence of OTTI including, but not limited to, unrealized loss trend analysis and significant short-term changes in value.

In addition, if the Company has the intent to sell, or the inability, or lack of intent to retain the investment for a period sufficient to recover the amortized cost basis, an OTTI is recognized as a realized loss equal to the entire difference between the investment's amortized cost basis and its fair value at the balance sheet date.

When a bond is other-than-temporarily impaired, a new cost basis is established.

Bonds - corporate

For corporate securities, if it is determined that a decline in the fair value of a bond is other than temporary, OTTI is recognized as a realized loss equal to the difference between the investment's amortized cost basis and, generally, its fair value at the balance sheet date.

Bonds - loan-backed and structured securities

For loan-backed and structured securities, if the present value of cash flows expected to be collected is less than the amortized cost basis of the security, an OTTI is recognized as a realized loss equal to the difference between the investment's amortized cost basis and the present value of cash flows expected to be collected. The expected cash flows are discounted at the security's effective interest rate. Internal inputs used in determining the amount of the OTTI on structured securities include collateral performance, prepayment speeds, default rates, and loss severity based on borrower and loan characteristics, as well as deal structure including subordination, over-collateralization and cash flow priority.

ABS and MBS are evaluated for OTTI using scenarios and assumptions based on the specifics of each security including collateral type, loan type, vintage and subordination level in the structure. Cash flow estimates are based on these assumptions and inputs obtained from external industry sources along with internal analysis and actual experience. Where applicable, assumptions include prepayment speeds, default rates and loss severity, weighted average maturity and changes in the underlying collateral values.

The Company has a review process for determining if CDOs are at risk for OTTI. For the senior, mezzanine and junior debt tranches, cash flows are modeled using multiple scenarios based on the current ratings and values of the underlying corporate credit risks and incorporating prepayment and default assumptions that vary according to collateral attributes of each CDO. The prepayment and default assumptions are varied within each model based upon rating (base case), historical expectations (default), rating change improvement (optimistic), rating change downgrade (pessimistic) and fair value (market). The default rates produced by these multiple scenarios are assigned an expectation weight according to current market and economic conditions and fed into a final scenario. OTTI is recorded if this final scenario results in the loss of any principal or interest payments due.

NOTES TO FINANCIAL STATEMENTS

For the most subordinated junior CDO tranches, the present value of the projected cash flows in the final scenario is measured using an effective yield. If the current book value of the security is greater than the present value measured using an effective yield, an OTTI is taken in an amount sufficient to produce its effective yield. Certain CDOs cannot be modeled using all of the scenarios because of limitations on the data needed for all scenarios. The cash flows for these CDOs, including foreign currency denominated CDOs, are projected using a customized scenario management believes is reasonable for the applicable collateral pool.

For loan-backed and structured securities, any difference between the new amortized cost basis and any increased present value of future cash flows expected to be collected is accreted into net investment income over the expected remaining life of the bond.

Common and preferred stock

The cost basis of common and preferred stocks is adjusted for impairments deemed to be other than temporary. The Company considers the following factors in the evaluation of whether a decline in value is other than temporary: (a) the financial condition and near-term prospects of the issuer; (b) the Company's ability and intent to retain the investment for a period sufficient to allow for a near-term recovery in value; and (c) the period and degree to which the value has been below cost. The Company conducts a quarterly analysis of issuers whose common or preferred stock is not-in-good standing or valued below 80% of cost. The Company also considers other qualitative and quantitative factors in determining the existence of OTTI including, but not limited to, unrealized loss trend analysis and significant short-term changes in value.

- d. Going concern:
There is not substantial doubt regarding the Company's ability to continue as a going concern.

Note 2 – Accounting Changes and Corrections of Errors

- a. For the years ended December 31, 2023 and 2022, the Company did not record any corrections of prior years' errors.
- b. Adoption of new accounting standards

In June 2022, the NAIC adopted modifications to SSAP No. 25, Affiliates and Other Related Parties and SSAP No. 43R, Loan-Backed and Structured Securities, effective December 31, 2022. The modifications clarify application of the existing affiliate definition and incorporate disclosure requirements for all investments that involve related parties, regardless of whether they meet the affiliate definition. The revisions to SSAP No. 43R also included additional clarifications that the investments from any arrangements that results in direct or indirect control, which include but are not limited to control through a servicer, shall be reported as affiliated investments. The modifications did not have a material effect on the Company's financial statements.

In August 2023, the NAIC adopted INT 23-01T — Disallowed IMR ("INT 23-01T"). INT 23-01T provides optional, limited-term guidance for the assessment of disallowed IMR for up to 10% of adjusted general account capital and surplus. An insurer's capital and surplus must first be adjusted to exclude certain "soft assets" including net positive goodwill, electronic data processing equipment and operating system software, net deferred tax assets and admitted disallowed IMR. An insurer will only be able to admit the negative IMR if the insurer's risk-based capital is over 300% authorized control level after adjusting to remove the assets described above.

As adopted, negative IMR may be admitted first in the insurer's general account and then, if all disallowed IMR in the general account is admitted and the percentage limit is not reached, to the separate account proportionately between insulated and noninsulated accounts. If the insurer can demonstrate historical practice in which acquired gains from derivatives were also reversed to IMR (as liabilities) and amortized, there is no exclusion for derivatives losses. INT 23-01T was adopted by the Company as of September 30, 2023 and will be effective through December 31, 2025. To the extent the Company's IMR balance is a net negative, the effects of INT 23-01T will be reflected in the Company's financial position, results of operations, and financial statement disclosures. The Company has adopted this guidance and the adoption did not result in an admitted disallowed IMR for the year ended December 31, 2023.

In August 2023, the NAIC adopted revisions to clarify and incorporate a new bond definition within disclosures SSAP No. 26 – *Bonds*, SSAP No. 43 – *Asset-Backed Securities*, and other related SSAPs, effective January 1, 2025. The revisions were issued in connection with its principle-based bond definition project, the Bond Project.

The Bond Project began in October 2020 through the development of a principle-based bond definition to be used for all securities in determining whether they qualify for reporting on the statutory annual statement Schedule D. Within the new bond definition, bonds are classified as an "issuer credit obligation" or an "asset-backed security." An "issuer credit obligation" is defined as a bond where repayment is supported by the general creditworthiness of an operating entity, and an "asset-backed security" is defined as a bond issued by an entity created for the primary purpose of raising capital through debt backed by financial assets. The revisions to SSAP No. 26 reflect the principle-based bond definition, and SSAP No. 43 provides accounting and reporting guidance for investments that qualify as asset-backed securities under the new bond definition. Upon adoption, investments that do not qualify as bonds will not be permitted to be reported as bonds on Schedule D, Part 1 thereafter as there will be no grandfathering for existing investments that do not qualify under the revised SSAPs. The Company is currently assessing the impacts of the adopted SSAP No. 26, SSAP No. 43 and other related SSAPs in relation to the financial statements.

In March 2023, the NAIC adopted modifications to SSAP No. 34 – *Investment Income Due and Accrued*, effective December 31, 2023. The modifications require additional disclosures and data capture related to gross, non-admitted and admitted amounts for interest income due and accrued, deferred interest, and paid-in-kind (PIK) interest.

In August 2023, the NAIC adopted revisions to further clarify the PIK interest disclosure in SSAP No. 34, effective December 31, 2023. The revisions clarify that decreasing amounts to principal balances are first applied to any PIK interest included in the principal balance. The original principal would not be reduced until the PIK interest had been fully eliminated from the balance. The revisions also provide a practical expedient for determining the PIK interest in the cumulative balance by subtracting the original principal/ par value from the current principal/ par value, with the resulting PIK interest not to go less than zero. The modifications did not have a material effect on the Company's impact of PIK in relation to the financial statements.

Note 3 – Business Combinations and Goodwill

- a. The Company did not have any business combinations accounted for using the statutory purchase method.
- b. There were no business combinations taking the form of a statutory merger.
- c. The Company did not enter into any assumption reinsurance agreements.
- d. The Company did not recognize an impairment loss on the transactions described above.

Note 4 – Discontinued Operations

The Company did not have any discontinued operations.

NOTES TO FINANCIAL STATEMENTS

Note 5 – Investments

- a. Mortgage loans
- (1) During 2023 and 2022, the Company did not purchase residential mortgage loans.
- (2) During 2023 and 2022, the Company did not own any commercial mortgage loans or mezzanine real estate loans.
- (3) As of December 31, 2023 and 2022, the Company did not have any taxes, assessments and amounts advanced and not included in the mortgage loan total.
- (4) Age analysis of mortgage loans and identification of mortgage loans in which the insurer is a participant or co-lender in a mortgage loan agreement:

	Residential			Commercial		Mezzanine	Total
	Farm	Insured	All Other	Insured	All Other		
a. 2023							
1. Recorded investment (all)							
(a) Current	\$ - \$	1,335,508	\$ -	\$ -		\$ -	1,335,508
(b) 30-59 days past due	-	-	-	-		-	-
(c) 60-89 days past due	-	-	-	-		-	-
(d) 90-179 days past due	-	-	-	-		-	-
(e) 180+ days past due	-	-	-	-		-	-
2. Accruing interest 90-179 days past due							
(a) Recorded investment	\$ - \$	\$ -	\$ -	\$ -		\$ -	-
(b) Interest accrued	-	-	-	-		-	-
3. Accruing interest 180+ days past due							
(a) Recorded investment	\$ - \$	\$ -	\$ -	\$ -		\$ -	-
(b) Interest accrued	-	-	-	-		-	-
4. Interest reduced							
(a) Recorded investment	\$ - \$	\$ -	\$ -	\$ -		\$ -	-
(b) Number of loans	-	-	-	-		-	-
(c) Percent reduced	-	-	-	-		-	-
5. Participant or co-lender in a mortgage loan agreement							
(a) Recorded investment	\$ - \$	\$ -	\$ -	\$ -		\$ -	-
b. 2022							
1. Recorded investment (all)							
(a) Current	\$ - \$	1,657,058	\$ -	\$ -		\$ -	1,657,058
(b) 30-59 days past due	-	-	-	-		-	-
(c) 60-89 days past due	-	-	-	-		-	-
(d) 90-179 days past due	-	-	-	-		-	-
(e) 180+ days past due	-	-	-	-		-	-
2. Accruing interest 90-179 days past due							
(a) Recorded investment	\$ - \$	\$	\$	\$		\$	-
(b) Interest accrued	-	-	-	-		-	-
3. Accruing interest 180+ days past due							
(a) Recorded investment	\$ - \$	\$	\$	\$		\$	-
(b) Interest accrued	-	-	-	-		-	-
4. Interest reduced							
(a) Recorded investment	\$ - \$	\$	\$	\$		\$	-
(b) Number of loans	-	-	-	-		-	-
(c) Percent reduced	-	-	-	-		-	-
5. Participant or co-lender in a mortgage loan agreement							
(a) Recorded investment	\$ - \$	\$ -	\$ -	\$ -		\$ -	-

- (5) As of December 31, 2023 and 2022, the Company did not have any impaired mortgage loans with or without allowance for credit losses and subject to a participant or co-lender mortgage loan agreement for which the Company is restricted from unilaterally foreclosing on the mortgage loan.

NOTES TO FINANCIAL STATEMENTS

(6) Investment in impaired loans - average recorded investment, interest income recognized, recorded investment on nonaccrual status and amount of interest income recognized using a cash-basis method of accounting:

		Residential			Commercial		Mezzanine	Total
		Farm	Insured	All Other	Insured	All Other		
a.	2023							
1.	Average recorded investment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
2.	Interest income recognized	-	-	-	-	-	-	-
3.	Recorded investment on nonaccrual status	-	-	-	-	-	-	-
4.	Amount of interest income recognized using a cash-basis method of accounting	-	-	-	-	-	-	-
b.	2022							
1.	Average recorded investment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
2.	Interest income recognized	-	-	-	-	-	-	-
3.	Recorded investment on nonaccrual status	-	-	-	-	-	-	-
4.	Amount of interest income recognized using a cash-basis method of accounting	-	-	-	-	-	-	-

(7) As of and for the December 31, 2023 and 2022, the Company did not have any mortgage loans with allowance for credit losses nor any changes in the allowance for credit losses.

(8) As of December 31, 2023, the Company did not have any mortgage loans derecognized as a result of foreclosure.

(9) Interest income earned on impaired loans is accrued on the outstanding principal balance of the loan based on the loan's contractual coupon rate. Interest is not accrued for (a) impaired loans more than 60 days past due, (b) delinquent loans more than 90 days past due, or (c) loans that have interest that is not expected to be collected. The Company continually monitors mortgage loans where the accrual of interest has been discontinued, and will resume the accrual of interest on a mortgage loan when the facts and circumstances of the borrower and property indicate that the payments will continue to be received according to the terms of the original or modified mortgage loan agreement.

b. Debt restructuring:
As of December 31, 2023 and 2022, the Company did not have any restructured debt.

c. Reverse mortgages:
As of December 31, 2023, the Company did not have any reverse mortgages.

d. Loan-backed securities:
(1) Prepayment assumptions for loan-backed and structured securities are based on various assumptions and inputs obtained from external industry sources along with internal analysis and actual experience.

NOTES TO FINANCIAL STATEMENTS

(2) The following contains loan-backed and structured securities that recognized other-than-temporary impairments (OTTI) classified on the following bases for recognizing OTTI:

	(1)	(2)		(3)
	Amortized Cost Basis Before OTTI	OTTI Recognized in Loss		Fair Value 1-(2a+2b)
		(2a) Interest	(2b) Non-interest	
OTTI recognized in the first quarter				
a. Intent to sell	\$ -	\$ -	\$ -	\$ -
b. Inability or lack of intent to retain the investment in the security for a period of time sufficient to recover the amortized cost basis	66,564	-	2,997	63,566
c. Total first quarter	<u>\$ 66,564</u>	<u>\$ -</u>	<u>\$ 2,997</u>	<u>\$ 63,566</u>
OTTI recognized in the second quarter				
d. Intent to sell	\$ -	\$ -	\$ -	\$ -
e. Inability or lack of intent to retain the investment in the security for a period of time sufficient to recover the amortized cost basis	64,028	-	436	63,592
f. Total second quarter	<u>\$ 64,028</u>	<u>\$ -</u>	<u>\$ 436</u>	<u>\$ 63,592</u>
OTTI recognized in the third quarter				
g. Intent to sell	\$ -	\$ -	\$ -	\$ -
h. Inability or lack of intent to retain the investment in the security for a period of time sufficient to recover the amortized cost basis	74,507	-	1,784	72,723
i. Total third quarter	<u>\$ 74,507</u>	<u>\$ -</u>	<u>\$ 1,784</u>	<u>\$ 72,723</u>
OTTI recognized in the fourth quarter				
j. Intent to sell	\$ -	\$ -	\$ -	\$ -
k. Inability or lack of intent to retain the investment in the security for a period of time sufficient to recover the amortized cost basis	135,844	-	5,354	130,490
l. Total fourth quarter	<u>\$ 135,844</u>	<u>\$ -</u>	<u>\$ 5,354</u>	<u>\$ 130,490</u>
m. Annual aggregate total		<u>\$ -</u>	<u>\$ 10,571</u>	

All impairments were taken due to the present value of cash flows expected to be collected being less than the amortized cost basis.

(3) The Company did not recognize impaired structured securities where the present value of cash flows expected to be collected is less than the amortized cost basis.

CUSIP	Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	Amortized Cost after OTTI	Fair Value at Time of OTTI	Date of Financial Instrument Where Reported
61750FAE0	\$ 66,564	\$ 63,566	\$ (2,997)	\$ 63,566	\$ 59,093	March 31, 2023
61750FAE0	64,028	63,592	(436)	63,592	57,835	June 30, 2023
40431KAE0	48,017	47,312	(705)	47,312	45,025	September 30, 2023
86359A6A6	26,490	25,411	(1,079)	25,411	22,711	September 30, 2023
40431KAE0	47,833	46,563	(1,270)	46,563	46,872	December 31, 2023
61750FAE0	88,011	83,927	(4,084)	83,927	58,643	December 31, 2023
Totals	\$ 340,942	\$ 330,371	\$ (10,571)	\$ 330,371	\$ 290,179	

(4) As of December 31, 2023, the gross unrealized losses and fair values for investments in structured and loan-backed securities for an OTTI has not been recognized in earnings follow:

a. The aggregate amount of unrealized losses:	
1. Less than 12 months	\$ (387,236)
2. 12 months or longer	\$ (8,201,957)
b. The aggregate related fair value of securities with unrealized losses:	
1. Less than 12 months	\$ 3,110,242
2. 12 months or longer	\$ 64,445,231

- e. Dollar repurchase agreements and/or securities lending transactions: The Company did not have any dollar repurchase agreements and/or securities lending transactions as of December 31, 2023.
- f. Repurchase agreements transactions accounted for as secured borrowing: The Company did not have any repurchase agreements as of December 31, 2023.

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NOTES TO FINANCIAL STATEMENTS

- g.

Reverse repurchase agreements transactions accounted for as secured borrowing: The Company did not have any reverse repurchase agreements transactions accounted for as secured borrowing as of December 31, 2023.
- h.

Repurchase agreements transactions accounted for as a sale: The Company did not have any repurchase agreements transactions accounted for as a sale as of December 31, 2023.
- i.

Reverse repurchase agreements transactions accounted for as a sale: The Company did not have any reverse repurchase agreements transactions accounted for as a sale as of December 31, 2023.
- j.

Real estate: The Company did not have any investments in real estate for the years ended December 31, 2023 and 2022.
- k.

Low income housing tax credit properties: The Company did not have any these properties for the years ended December 31, 2023 or 2022.

I. Restricted assets:

(1) Restricted assets (including pledged):

Restricted Asset Category	Gross (Admitted & Nonadmitted) Restricted						
	Current Year					6	7
	1	2	3	4	5	Total from Prior Year	Increase/ (Decrease) (5 minus 6)
	Total General Account (G/A)	G/A Supporting S/A Activity (a)	Total Separate Account (S/A) Restricted Assets	S/A Assets Supporting G/A Activity (b)	Total (1 plus 3)		
a. Subject to contractual obligation for which liability is not shown	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
b. Collateral held under security lending agreements	-	-	-	-	-	-	-
c. Subject to repurchase agreements	-	-	-	-	-	-	-
d. Subject to reverse repurchase agreements	-	-	-	-	-	-	-
e. Subject to dollar repurchase agreements	-	-	-	-	-	-	-
f. Subject to dollar reverse repurchase agreements	-	-	-	-	-	-	-
g. Placed under option contracts	-	-	-	-	-	-	-
h. Letter stock or securities restricted as to sale - excluding FHLB capital stock	-	-	-	-	-	-	-
i. FHLB capital stock	-	-	-	-	-	-	-
j. On deposit with states	4,341,227	-	-	-	4,341,227	4,444,563	(103,336)
k. On deposit with other regulatory bodies	-	-	-	-	-	-	-
l. Pledged collateral to FHLB (including assets backing funding agreements)	-	-	-	-	-	-	-
m. Pledged as collateral not captured in other categories	-	-	-	-	-	-	-
n. Other restricted assets	-	-	-	-	-	-	-
o. Total restricted assets	\$ 4,341,227	\$ -	\$ -	\$ -	\$ 4,341,227	\$ 4,444,563	\$ (103,336)

(a) Subset of column 1
(b) Subset of column 3

NOTES TO FINANCIAL STATEMENTS

Restricted Asset Category	Current Year			
	8 Total Nonadmitted Restricted	9 Total Admitted Restricted (5 minus 8)	Percentage	
			10 Gross (Admitted & Nonadmitted) Restricted to Total Assets (c)	11 Admitted Restricted to Total Admitted Assets (d)
a. Subject to contractual obligation for which liability is not shown	\$ -	\$ -	- %	- %
b. Collateral held under security lending agreements	-	-	-	-
c. Subject to repurchase agreements	-	-	-	-
d. Subject to reverse repurchase agreements	-	-	-	-
e. Subject to dollar repurchase agreements	-	-	-	-
f. Subject to dollar reverse repurchase agreements	-	-	-	-
g. Placed under option contracts	-	-	-	-
h. Letter stock or securities restricted as to sale - excluding FHLB capital stock	-	-	-	-
i. FHLB capital stock	-	-	-	-
j. On deposit with states	-	4,341,227	0.085	0.085
k. On deposit with other regulatory bodies	-	-	-	-
l. Pledged collateral to FHLB (including assets backing funding agreements)	-	-	-	-
m. Pledged as collateral not captured in other categories	-	-	-	-
n. Other restricted assets	-	-	-	-
o. Total Restricted Assets	\$ -	\$ 4,341,227	0.085 %	0.085 %

(c) Column 5 divided by Asset Page, Column 1, Line 28

(d) Column 9 divided by Asset Page, Column 3, Line 28

- (2) Detail of Assets Pledged as Collateral Not Captured in Other Categories (Contracts that Share Similar Characteristics, Such as Reinsurance and Derivatives Are Reported in the Aggregate)

Description of Assets	Gross (Admitted & Nonadmitted) Restricted							8	Percentage	
	Current Year					6	7		9	10
	1	2	3	4	5					
	Total General Account (G/A)	G/A Supporting S/A Activity (a)	Total Separate Account (S/A) Restricted Assets	S/A Assets Supporting G/A Activity (b)	Total (1 plus 3)	Total from Prior Year	Increase/ (Decrease) (5 minus 6)	Total Current Year Admitted Restricted	Gross (Admitted & Nonadmitted) Restricted to Total Assets	Admitted Restricted Total Admitted Assets
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	-
	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
Total (c)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	-

(a) Subset of column 1

(b) Subset of column 3

(c) Total Line for Column 1 through 7 should equal 5H (1) in Columns 1 through 7 respectively and Total Line for Columns 8 through 10 should equal 5H (1) Columns 9 through 11 respectively

NOTES TO FINANCIAL STATEMENTS

(3) Detail of Other Restricted Assets (Contracts that Share Similar Characteristics, Such as Reinsurance and Derivatives, Are Reported in the Aggregate)

Description of Assets	Gross (Admitted & Nonadmitted) Restricted							8	Percentage	
	Current Year					6	7		9	10
	1	2	3		5					
	Total General Account (G/A)	G/A Supporting S/A Activity (a)	Total Separate Account (S/A) Restricted Assets	S/A Assets Supporting G/A Activity (b)	Total (1 plus 3)	Total from Prior Year	Increase/ (Decrease) (5 minus 6)	Total Current Year Admitted Restricted	Gross (Admitted & Nonadmitted) Restricted to Total Assets	Admitted Restricted Total Admitted Assets
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	-
	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
*Total (c)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	-

- (a) Subset of column 1
(b) Subset of column 3
(c) Total Line for Column 1 through 7 should equal 5L (1) in Columns 1 through 7 respectively and Total Line for Columns 8 through 10 should equal 5L (1) Columns 9 through 11 respectively

- m. Working capital finance investments: The Company did not invest in working capital finance investments as of December 31, 2023.
- n. Offsetting and netting of assets and liabilities: The Company does not currently hold derivatives, repurchase agreements, reverse repurchase agreements or securities lending assets and liabilities as of December 31, 2023.
- o. 5GI Securities:

Investment	Number of 5GI Securities		Aggregate BACV		Aggregate Fair Value	
	Current Year	Prior Year	Current Year	Prior Year	Current Year	Prior Year
(1) Bonds - AC						
(2) LB&SS - AC						
(3) Preferred Stock - AC						
(4) Preferred Stock - FV						
(5) Total (1+2+3+4)						

AC - Amortized Cost FV - Fair Value

- p. Short sales - The Company does not engage in short sale transactions.
- q. Prepayment penalty and acceleration fees:

	Years Ended December 31, 2023	
	General Account	Separate Account
1. Number of CUSIPS	1	1
2. Aggregate amount of investment income	\$ 4,314	\$ 7,190

- r. Reporting entity's share of cash pool by asset type – The Company does not have cash in a qualified cash pool.

Note 6 – Joint Ventures, Partnerships and Limited Liability Companies

- a. There were no individual investments in joint ventures, partnerships or LLCs exceeding 10% of admitted assets for the year ended December 31, 2023 and for the year ended December 31, 2022.
- b. The Company did not have any investment in joint ventures, partnerships and LLCs, therefore, no impairment write-downs were recognized for the years ended December 31, 2023 or 2022.

Note 7 – Investment Income

- a. Accrued investment income consists primarily of interest and dividends. Interest is recognized on an accrual basis and dividends are recorded as earned on the ex-dividend date.
- b. The total amount of due and accrued investment income excluded from surplus was \$0 for the year ended December 31, 2023 and \$0 for the year ended December 31, 2022.
- c. The gross, nonadmitted and admitted amounts for interest income due and accrued

Interest Income Due and Accrued	Amount
1. Gross	\$ 4,363,447
2. Nonadmitted	\$ -
3. Admitted	\$ 4,363,447

- d. The aggregate deferred interest

Aggregate Deferred Interest	\$ -
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NOTES TO FINANCIAL STATEMENTS

e. The cumulative amounts of paid-in-kind (PIK) interest included in the current principal balance.

Cumulative amounts of PIK interest included in the current principal balance \$ -

Note 8 – Derivative Instruments

The company did not have any derivative instruments for the years ended December 31, 2023 or 2022.

Note 9 – Income Taxes

A. The Company provides for deferred income taxes based on an admissibility limitation of 15% of surplus and a three-year reversal/realization period.

1. The net DTA or net deferred tax liability (DTL) recognized in the Company’s assets, liabilities and surplus is as follows:

December 31, 2023			
	Ordinary	Capital	Total
(a) Gross DTAs	\$ 4,160,900	\$ 78,376	\$ 4,239,276
(b) Statutory valuation allowance adjustment	-	-	-
(c) Adjusted gross DTAs	4,160,900	78,376	4,239,276
(d) DTAs nonadmitted	687,248	-	687,248
(e) Subtotal net admitted DTA	3,473,652	78,376	3,552,028
(f) Total gross DTLs	1,693,783	361,247	2,055,030
(g) Net admitted DTA(L)	\$ 1,779,869	\$ (282,871)	\$ 1,496,998

December 31, 2022			
	Ordinary	Capital	Total
(a) Gross DTAs	\$ 4,418,608	\$ 1,160	\$ 4,419,768
(b) Statutory valuation allowance adjustment	-	-	-
(c) Adjusted gross DTAs	4,418,608	1,160	4,419,768
(d) DTAs nonadmitted	1,182,085	-	1,182,085
(e) Subtotal net admitted DTA	3,236,523	1,160	3,237,683
(f) Total gross DTLs	1,142,602	379,841	1,522,443
(g) Net admitted DTA(L)	\$ 2,093,921	\$ (378,681)	\$ 1,715,240

Change			
	Ordinary	Capital	Total
(a) Gross DTAs	\$ (257,708)	\$ 77,216	\$ (180,492)
(b) Statutory valuation allowance adjustment	-	-	-
(c) Adjusted gross DTAs	(257,708)	77,216	(180,492)
(d) DTAs nonadmitted	(494,837)	-	(494,837)
(e) Subtotal net admitted DTA	237,129	77,216	314,345
(f) Total gross DTLs	551,181	(18,594)	532,587
(g) Net admitted DTA(L)	\$ (314,052)	\$ 95,810	\$ (218,242)

NOTES TO FINANCIAL STATEMENTS

2. The amount of adjusted gross DTA admitted under each component of the guidance and the resulting change by tax character are as follows:

December 31, 2023			
	Ordinary	Capital	Total
(a) Federal income taxes paid in prior years recoverable through loss carrybacks	\$ -	\$ 78,376	\$ 78,376
(b) Adjusted gross DTAs expected to be realized (excluding the amount of DTAs from 2(a) above) after application of the threshold limitation (the lesser of 2(b)1 and 2(b)2 below)	1,418,622	-	1,418,622
1. Adjusted gross DTAs expected to be realized following the balance sheet date	1,418,622	-	1,418,622
2. Adjusted gross DTAs allowed per limitation threshold	34,309,005	-	34,309,005
(c) Adjusted gross DTAs (excluding the amount of DTAs from 2(a) and 2(b) above) offset by gross DTLs	2,055,030	-	2,055,030
(d) DTAs admitted as the result of application of SSAP no. 101			
Total (2(a) + 2(b) + 2(c))	\$ 3,473,652	\$ 78,376	\$ 3,552,028

December 31, 2022			
	Ordinary	Capital	Total
(a) Federal income taxes paid in prior years recoverable through loss carrybacks	\$ -	\$ 1,160	\$ 1,160
(b) Adjusted gross DTAs expected to be realized (excluding the amount of DTAs from 2(a) above) after application of the threshold limitation (the lesser of 2(b)1 and 2(b)2 below)	1,714,080	-	1,714,080
1. Adjusted gross DTAs expected to be realized following the balance sheet date	1,714,080	-	1,714,080
2. Adjusted gross DTAs allowed per limitation threshold	37,189,130	-	37,189,130
(c) Adjusted gross DTAs (excluding the amount of DTAs from 2(a) and 2(b) above) offset by gross DTLs	1,522,443	-	1,522,443
(d) DTAs admitted as the result of application of SSAP no. 101			
Total (2(a) + 2(b) + 2(c))	\$ 3,236,523	\$ 1,160	\$ 3,237,683

Change			
	Ordinary	Capital	Total
(a) Federal income taxes paid in prior years recoverable through loss carrybacks	\$ -	\$ 77,216	\$ 77,216
(b) Adjusted gross DTAs expected to be realized (excluding the amount of DTAs from 2(a) above) after application of the threshold limitation (the lesser of 2(b)1 and 2(b)2 below)	(295,458)	-	(295,458)
1. Adjusted gross DTAs expected to be realized following the balance sheet date	(295,458)	-	(295,458)
2. Adjusted gross DTAs allowed per limitation threshold	(2,880,125)	-	(2,880,125)
(c) Adjusted gross DTAs (excluding the amount of DTAs from 2(a) and 2(b) above) offset by gross DTLs	532,587	-	532,587
(d) DTAs admitted as the result of application of SSAP no. 101			
Total (2(a) + 2(b) + 2(c))	\$ 237,129	\$ 77,216	\$ 314,345

NOTES TO FINANCIAL STATEMENTS

3. The Company's total realization threshold limitations are as follows:

	Years Ended December 31,	
	2023	2022
(a) Ratio percentage used to determine recovery period and threshold limitation amount	9,665%	10,793%
(b) Amount of adjusted capital and surplus used to determine recovery period and threshold limitation in 2(b)2 above.	\$ 228,726,701	\$ 247,927,534

4. The ultimate realization of DTAs depends on the generation of future taxable income during the periods in which the temporary differences are deductible. Management considers the scheduled reversal of DTLs (including the impact of available carryback and carryforward periods), projected taxable income and tax-planning strategies in making this assessment. The impact of tax-planning strategies is as follows:

	December 31, 2023	
	Ordinary	Capital
(a) Determination of adjusted gross DTAs and net admitted DTAs, by tax character as a percentage.		
1. Adjusted Gross DTAs amount from Note 9A1(c)	\$ 4,160,900	\$ 78,376
2. Percentage of adjusted gross DTAs by tax character attributable to the impact of tax planning strategies	-%	-%
3. Net admitted DTAs amount from Note 9A1(e)	\$ 3,473,652	\$ 78,376
4. Percentage of net admitted DTAs by tax character attributable to the impact of tax planning strategies	4%	-%

	December 31, 2022	
	Ordinary	Capital
(b) Determination of adjusted gross DTAs and net admitted DTAs, by tax character as a percentage.		
1. Adjusted Gross DTAs amount from Note 9A1(c)	\$ 4,418,608	\$ 1,160
2. Percentage of adjusted gross DTAs by tax character attributable to the impact of tax planning strategies	-%	-%
3. Net admitted DTAs amount from Note 9A1(e)	\$ 2,092,761	\$ -
4. Percentage of net admitted DTAs by tax character attributable to the impact of tax planning strategies	-%	-%

	Change	
	Ordinary	Capital
(c) Determination of adjusted gross DTAs and net admitted DTAs, by tax character as a percentage.		
1. Adjusted Gross DTAs amount from Note 9A1(c)	\$ (257,708)	\$ 77,216
2. Percentage of adjusted gross DTAs by tax character attributable to the impact of tax planning strategies	-%	-%
3. Net admitted DTAs amount from Note 9A1(e)	\$ 237,129	\$ 77,216
4. Percentage of net admitted DTAs by tax character attributable to the impact of tax planning strategies	4%	-%

(d) Does the Company's tax planning strategies include the use of reinsurance?	Yes___	No <u>X</u>
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B. The Company does not have any deferred tax liabilities not recognized.

NOTES TO FINANCIAL STATEMENTS

C. The provision for current tax expense on earnings is as follows:

1.	Years Ended December 31,		
	2023	2022	Change
(a) Federal	\$ (812,660)	\$ 1,002,915	\$ (1,815,575)
(b) Foreign	-	-	-
(c) Subtotal	(812,660)	1,002,915	(1,815,575)
(d) Federal income tax on net capital gains	(106,526)	(45,315)	(61,211)
(e) Utilization of capital loss carry-forwards	-	-	-
(f) Other	-	-	-
(g) Federal and foreign income taxes incurred	<u>\$ (919,186)</u>	<u>\$ 957,600</u>	<u>\$ (1,876,786)</u>

NOTES TO FINANCIAL STATEMENTS

The tax effects of temporary differences that give rise to significant portions of the DTAs and DTLs are as follows:

	2023	December 31, 2022	Change
2. Deferred Tax Assets:			
(a) Ordinary			
(1) Discounting of unpaid losses	\$ -	\$ -	\$ -
(2) Unearned premium reserve	-	-	-
(3) Policyholder reserves	692,310	763,888	(71,578)
(4) Investments	-	-	-
(5) Deferred acquisition costs	3,142,112	3,329,414	(187,302)
(6) Policyholder dividends accrual	-	-	-
(7) Fixed assets	-	-	-
(8) Compensation and benefits accrual	-	-	-
(9) Pension accrual	-	-	-
(10) Receivables - nonadmitted	-	-	-
(11) Net operating loss carry-forward	-	-	-
(12) Tax credit carry-forward	-	-	-
(13) Other	326,478	325,306	1,172
(14) Subtotal	4,160,900	4,418,608	(257,708)
(b) Statutory valuation allowance adjustment	-	-	-
(c) Nonadmitted	687,248	1,182,085	(494,837)
(d) Admitted ordinary DTAs (2a14 - 2b - 2c)	3,473,652	3,236,523	237,129
(e) Capital			
(1) Investments	78,376	1,160	77,216
(2) Net capital loss carry-forward	-	-	-
(3) Real estate	-	-	-
(4) Other	-	-	-
(5) Subtotal	78,376	1,160	77,216
(f) Statutory valuation allowance adjustment	-	-	-
(g) Nonadmitted	-	-	-
(h) Admitted capital DTAs (2e5 - 2f - 2g)	78,376	1,160	77,216
(i) Admitted DTAs (2d + 2h)	3,552,028	3,237,683	314,345
3. Deferred Tax Liabilities:			
(a) Ordinary			
(1) Investments	-	-	-
(2) Fixed Assets	-	-	-
(3) Deferred and uncollected premium	226,382	226,382	-
(4) Policyholder reserves	79,275	118,913	(39,638)
(5) Other	1,388,126	797,307	590,819
(6) Subtotal	1,693,783	1,142,602	551,181
(b) Capital			
(1) Investments	361,247	379,841	(18,594)
(2) Real estate	-	-	-
(3) Other	-	-	-
(4) Subtotal	361,247	379,841	(18,594)
(c) Total DTLs (3a6 + 3b4)	2,055,030	1,522,443	532,587
4. Net DTA(L) (2i - 3c)	\$ 1,496,998	\$ 1,715,240	\$ (218,242)

NOTES TO FINANCIAL STATEMENTS

The change in net deferred income taxes is comprised of the following:

	Years Ended December 31,	
	2023	2022
(1) Net DTA(L)	\$ (713,078)	\$ (1,012,809)
Less: Items not recorded in the change in net deferred income taxes:	-	-
(2) Tax-effect of unrealized gains/(losses)	67,276	(50,881)
(3) Tax-effect of change in accounting method for pensions	-	-
(4) Change in net deferred income taxes	<u>\$ (645,802)</u>	<u>\$ (1,063,690)</u>

- D. The components of federal and foreign income tax on operating items are recorded on the Summary of Operations and Capital and Surplus Account and are different from that which would be obtained by applying the prevailing federal income tax rate to operating income before taxes. The significant items causing this difference are as follows:

	Years Ended December 31,	
	2023	2022
(1) Provision computed at statutory rate	\$ 1,305,436	\$ 3,300,342
(2) Nonadmitted assets	156	(3,951)
(3) Foreign governmental income taxes	-	-
(4) Expense items	80	186
(5) Investment items	(1,052,255)	(979,082)
(6) Tax credits	-	-
(7) Change in reserve valuation basis	-	-
(8) Other	<u>(526,801)</u>	<u>(296,206)</u>
Total statutory income tax expense (benefit)	<u>\$ (273,384)</u>	<u>\$ 2,021,289</u>
(9) Federal and foreign income tax benefit	\$ (919,186)	\$ 957,599
(10) Change in net deferred income taxes	<u>645,802</u>	<u>1,063,690</u>
Total statutory income tax expense (benefit)	<u>\$ (273,384)</u>	<u>\$ 2,021,289</u>

- E. (1) As of December 31, 2023, the Company had no net operating or capital loss carryforwards to include in deferred income taxes. The Company has no total tax credit carryforwards included in deferred taxes.
- (2) The Company paid federal income taxes in the amount of \$2,438,123 in 2023, received refunds of \$5,189,433 in 2022, and paid federal income taxes of \$3,420,831 in 2021.
- (3) The total income taxes incurred in the current and prior years that will be available for recoupment in the event of future net capital losses totaled \$0 related to 2023, \$0 related to 2022, and \$1,085,240 related to 2021.
- (4) As of December 31, 2023 and 2022, the Company had no protective deposits recognized as admitted assets.
- F. (1) The Company is included in a consolidated U.S. federal income tax return with its parent, MassMutual, a mutual life insurance company domiciled in the Commonwealth of Massachusetts, and MassMutual's eligible U.S. subsidiaries. The Company also files income tax returns in various states and foreign jurisdictions.
- (2) The Company, MassMutual, and MassMutual's eligible subsidiaries and certain affiliates (the Parties) have executed and are subject to a written tax allocation agreement (the Agreement). The Agreement sets forth the manner in which the total combined federal income tax is allocated among the Parties. The Agreement provides the Company with the enforceable right to recoup federal income taxes paid in prior years in the event of future net capital losses, which it may incur. Further, the Agreement provides the Company with the enforceable right to utilize its net losses carried forward as an offset to future net income subject to federal income taxes. In accordance with the Agreement, future corporate alternative minimum tax (CAMT) is outside of the scope of the general tax allocation method and, consequently any future CAMT liability of a subsidiary shall be allocated solely to MassMutual.
- G. (1) Companies are generally required to disclose unrecognized tax benefits, which are the tax effect of positions taken on their tax returns that may be challenged by the various taxing authorities, in order to provide users of financial statements more information regarding potential liabilities. The Company recognizes tax benefits and related reserves in accordance with existing SAP for liabilities, contingencies and impairments of assets. As of December 31, 2023, the Company has no liabilities for unrecognized tax benefits.
- (2) On August 16th, 2022, the Inflation Reduction Act ("IRA") was signed into law and includes certain corporate income tax provisions. Impacts to the Company could include the imposition of a corporate alternative minimum tax ("CAMT") applicable to tax years beginning after December 31, 2022. The CAMT imposes a 15% minimum tax on adjusted financial statement income on applicable corporations that have an average group wide adjusted financial statement income over \$1 billion in the prior three-year period (2020-2022). As of the reporting date, the Company has determined that it is not an applicable corporation and therefore not liable for CAMT in 2023. While the Company is not an applicable corporation in 2023, any future CAMT liability will be allocated to MassMutual in accordance with the tax allocation agreement. The United States Treasury Secretary and the IRS have been authorized to issue further guidance and intend to publish proposed regulations in 2024.
- (3) The Internal Revenue Service (IRS) has completed its examination of MassMutual and its subsidiaries for the year 2013 and prior. The 2014-2016 tax years are in Appeals for 3 carryforward issues. The IRS completed its examination of the 2017-2018 tax years and is being transferred to Appeals. The adjustments resulting from these examinations are not expected to materially affect the position or liquidity of the Company.

NOTES TO FINANCIAL STATEMENTS

- H. (1) The Company is not subject to the repatriation transition tax.
- I. (1) The Company does not have an alternative minimum tax credit.

Note 10 – Information Concerning Parent, Subsidiaries and Affiliates

- a. The Company is a wholly owned subsidiary of C.M. Life Insurance Company (C.M. Life), a stock life insurance company domiciled in the state of Connecticut.
- b. In December 31, 2023, the Company declared and paid \$25,000,000 in dividends to C.M. Life. In December 31, 2022, the Company declared and paid \$26,000,000 in dividends to C.M. Life. See Schedule Y for SCA activity.
- c. The Company did not have any material related party transactions that were not reported on Schedule Y.
- d. The Company reported \$146,021 as amounts due from parent, subsidiaries and affiliates as of December 31, 2023 and \$2,992,034 as of December 31, 2022. The Company reported \$2,378,698 as amounts due to parent, subsidiaries and affiliates as of December 31, 2023 and \$0 as of December 31, 2022. Terms require settlement of these amounts within 30 to 90 days.
- e. Pursuant to a management agreement, MassMutual, for a fee, furnishes to the Company, as required, operating facilities, human resources, computer software development and managerial services. Investment and administrative services are also provided to the Company pursuant to a management services agreement with MassMutual. While management believes that these fees are calculated on a reasonable basis, these fees may not necessarily be indicative of the costs that would have been incurred on a stand-alone basis.

The following table summarizes the transactions between the Company and the related parties:

	Years Ended December 31,	
	2023	2022
Fee income:		
Recordkeeping and other services	\$ -	\$ 698,290
Investment advisory income	1,500,000	1,650,000
Fee expense:		
Management and service contracts and cost-sharing arrangements	8,600,000	7,065,494
Investment advisory services	-	100,000

The Company participates in variable annuity exchange programs with MassMutual, where certain variable annuity contract holders can make a nontaxable exchange of their contracts for enhanced MassMutual variable annuity contracts. The Company did not record any surrender benefits in 2023 or 2022 related to these exchange programs.

- f. The Company has a modified coinsurance (Modco) quota-share reinsurance agreement with MassMutual where the Company cedes 100% of the premium on certain bank-owned life insurance policies. In return, MassMutual pays the Company a stipulated expense allowance, death and surrender benefits. The Company retains the assets and related reserves for payment of future benefits on the ceded policies. The Modco adjustment is the mechanism by which MassMutual funds the reserve on the reinsured portion of the risk. It is needed to adjust for the financial effect of the Company holding the reserves on the ceded coverage rather than MassMutual.

The Company has a quota-share reinsurance agreement with MassMutual in which MassMutual assumes specific plans of insurance on a yearly renewable term basis.

The net amounts outstanding and due from MassMutual for the various reinsurance agreements were \$10,952,910 as of December 31, 2023 and \$23,147,077 as of December 31, 2022. These outstanding balances are due and payable with terms ranging from monthly to annually, depending on the agreement in effect.

The following summarizes reinsurance transactions between the Company and MassMutual:

	Years Ended December 31,	
	2023	2022
Premium expense ceded, related to:		
Quota-share reimbursement agreements	(4,680,911)	(4,942,302)
Modified coinsurance adjustments ceded, included in fee and other income	(23,606,065)	(12,332,081)
Expense allowances on reinsurance ceded, included in fees and other income, related to:		
Modified coinsurance agreements	659,934	6,485,739
Policyholders' benefits ceded, related to:		
Modified coinsurance agreements	22,782,729	14,340,663
Quota-share reimbursement agreements	2,309,231	10,057,850
Experience refunds (paid) received, related to:		
Modified coinsurance agreements	(1,185,896)	626,788

- g. All outstanding shares of the Company were owned by its parent.
- h. The Company does not have an investment in its parent.
- i. As of 2023, the Company did not have an investment in SCAs exceeding 10% of admitted assets.

NOTES TO FINANCIAL STATEMENTS

- j. In 2023, the Company did not have impairment write-downs on its investments in affiliated bonds.
In 2022, the Company did not have impairment write-downs on its investments in affiliated bonds.
The Company does not have an impairment write-down of any SCA entities during the statement periods.
- k. The Company has no foreign insurance subsidiary whose value is calculated by adjusting annuity GAAP account value reserves using the Commissioners' Annuity Reserve Valuation Method and the related Actuarial Guidelines.
- l. The Company does not hold an investment in a downstream noninsurance holding company.
- m. The Company does not have investments in foreign or noninsurance SCAs.
- n. The Company does not have any insurance SCAs for which the audited statutory equity reflects a departure from NAIC statutory accounting practices.
- o. The Company does not have any insurance SCAs for which losses exceeded its investment in the SCA.

Note 11 – Debt

- a. The Company did not have any capital notes or liability for borrowed money as of December 31, 2023 or 2022.
The Company did not have any debt that was considered to be extinguished by in-substance defeasance.
The Company did not set aside assets after the effective date of this statement solely for satisfying debt obligations.
- b. The Company is not a member of the Federal Home Loan Bank (FHLB) therefore it has no FHLB funding agreements.

Note 12 – Retirement Plans, Deferred Compensation, Postemployment Benefits and Compensated Absences and Other Postretirement Benefit Plans

- a. The Company did not have any defined benefit pension plans for which the reporting entity is directly liable.
- b. The Company did not have any pension plans for which the reporting entity is directly liable.
- c. The Company did not have any pension plans for which the reporting entity is directly liable.
- d. The Company did not have any pension plans for which the reporting entity is directly liable.
- e. The Company did not have any defined contribution plans.
- f. The Company did not have multi-employer plans.
- g. Consolidated/Holding Company Plans:
MassMutual charges allocated expenses to the Company based on relative weighted commissions for agents and time studies of its employees. The Company recorded an expense of \$687,600 for the year ended December 31, 2023 and \$467,908 for the year ended December 31, 2022 for these plans.
- h. The Company accrues severance-related postemployment benefits and health benefit-related postemployment benefits.
- i. The Company does not apply for a subsidy under the Medicare Part D under the Medicare Modernization Act.

Note 13 – Capital and Surplus, Dividend Restrictions and Quasi-Reorganizations

- a. The Company had 50,000 shares of common stock authorized, 12,501 shares issued and outstanding as of December 31, 2023. The par value of the common stock is \$200 per share.
- b. The Company did not have any preferred stock outstanding.
- c. Without the prior approval of the Insurance Commissioner of the State of Connecticut (the Commissioner), total dividends paid to the Company's shareholder in a twelve month period are limited to the greater of (i) 10% of the Company's surplus as of December 31 of the preceding year or (ii) the net gain from operations for the twelve month period ending on December 31 of the preceding year; each case is determined using statutory accounting policies. In addition, the prior approval of the Commissioner is required if any dividend or distribution exceeds the Company's earned surplus. Under these regulations, \$23,272,390 of shareholder's equity is available for distribution to the shareholder in 2024 without prior regulatory approval.
- d. In December 2023, the Company declared and paid \$25,000,000 in dividends to C.M. Life. In December 2022, the Company declared and paid \$26,000,000 in dividends to C.M. Life.
- e. Within the limits of (3) above, there are no restrictions placed on the portion of Company profits that may be paid as ordinary dividends to the stockholder.
- f. There are no restrictions on unassigned surplus funds.
- g. The Company did not make any advances to surplus.
- h. The Company did not have any stock held for special purposes.
- i. The Company does not have any special surplus funds.
- j. The portion of unassigned funds (surplus) represented by net unrealized gains and (losses) (cumulative, net of deferred tax) was \$(297,559) as of December 31, 2023. The portion of unassigned funds (surplus) represented by net unrealized gains and (losses) (cumulative, net of deferred tax) was \$14,229 as of December 31, 2022.
- k. The Company did not have any surplus debentures or similar obligations.
- l. There were no restatements due to prior quasi-reorganizations.
- m. There were no quasi-reorganizations in the prior ten years.

NOTES TO FINANCIAL STATEMENTS

Note 14 – Liabilities, Contingencies and Assessments

- a. Contingent commitments:
In the normal course of business, the Company enters into commitments to purchase certain investments. The majority of these commitments have funding periods that extend between one and five years. The Company is not required to fund commitments once the commitment period expires. As of December 31, 2023 or 2022, the Company had no commitments.
- b. Assessments:
The Company is subject to insurance guaranty fund laws in the states in which it does business. These laws assess insurance companies' amounts to be used to pay benefits to policyholders and policy claimants of insolvent insurance companies. Many states allow these assessments to be credited against future premium taxes. The Company believes such assessments in excess of amounts accrued will not materially impact its financial position, results of operations or liquidity.
- c. Gain contingencies:
No material gain contingencies were realized subsequent to December 31, 2023 through the filing date.
- d. The Company did not have any claims related to extra contractual obligations in 2023.
- e. The Company has no joint and several liabilities.
- f. All other contingencies:
In the normal course of business, the Company is involved in disputes, litigation and governmental or regulatory inquiries, administrative proceedings, examinations and investigations, both pending and threatened. These matters, if resolved adversely against the Company or settled, may result in monetary damages, fines and penalties or require changes in the Company's business practices. The resolution or settlement of these matters is inherently difficult to predict. Based upon the Company's assessment of these pending matters, the Company does not believe that the amount of any judgment, settlement or other action arising from any pending matter is likely to have a material adverse effect on the statement of financial position. However, an adverse outcome in certain matters could have a material adverse effect on the results of operations for the period in which such matter is resolved, or an accrual is determined to be required, on the financial statement financial position, or on our reputation.

The Company evaluates the need for accruals of loss contingencies for each matter. When a liability for a matter is probable and can be estimated, the Company accrues an estimate of the loss and any related insurance recoveries, if any. An accrual is subject to subsequent adjustment as a result of additional information and other developments. The resolution of matters are inherently difficult to predict, especially in the early stages of matter. Even if a loss is probable, due to many complex factors, such as speed of discovery and the timing of court decisions or rulings, a loss or range of loss may not be reasonably estimated until the later stages of the matter. For matters where a loss is material and it is either probable or reasonably possible then it is disclosed. For matters where a loss may be reasonably possible, but not probable, or is probable but not reasonably estimated, no accrual is established, but the matter, if material, is disclosed.

Note 15 – Leases

The Company did not have any lease obligations.

Note 16 – Information About Financial Instruments With Off-Balance Sheet Risk and Financial Instruments With Concentrations of Credit Risk

There were no contracts for the years ended December 31, 2023 or 2022.

Note 17 – Sale, Transfer and Servicing of Financial Assets and Extinguishments of Liabilities

- a. During 2023 and 2022, the Company did not transfer any receivables that were reported as sales.
- b. Transfer and Servicing of Financial Assets:
 - (1) The Company did not participate in securities lending as of December 31, 2023 or 2022.
 - (2) The Company did not have any servicing assets or liabilities in 2023 or 2022.
 - (3) The Company did not have any servicing assets or liabilities in 2023 or 2022.
 - (4) The Company did not have interests that continue to be held by a transferor in securitized financial assets in 2023 or 2022.
 - (5) The Company did not have any transfers of financial assets accounted for as secured borrowing in 2023 or 2022.
 - (6) The Company did not have any transfers of receivables with recourse in 2023 or 2022.
 - (7) See Note 5e1 "Repurchase Agreements".
- c. Wash sales:
 - (1) In the course of the Company's investment management activities, securities may be sold and reacquired within 30 days of the sale date to enhance the Company's yield on its investment portfolio.
 - (2) The Company did not sell any securities with the NAIC Designation 3 or below, or unrated, for the year ended December 31, 2023 or 2022, that were reacquired within 30 days of the sale date.

Note 18 – Gain or Loss to the Reporting Entity from Uninsured Plans and the Uninsured Portion of Partially Insured Plans

The Company did not write any accident and health plans. Therefore, the Company did not have any uninsured accident and health plans.

Note 19 – Direct Premium Written/Produced by Managing General Agents/Third Party Administrators

The Company did not have any premium written through managing general agents or third party administrators.

Note 20 – Fair Value Measurements

- a. Fair value is defined as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The authoritative guidance around fair value establishes a measurement framework that includes a hierarchy used to classify the inputs used in measuring fair value. The hierarchy prioritizes the inputs to valuation techniques into three levels. Each level reflects a unique description of the inputs that are significant to the fair value measurements. The levels of the fair value hierarchy are as follows:

Level 1 – Observable inputs in the form of quoted prices for identical instruments in active markets.

NOTES TO FINANCIAL STATEMENTS

Level 2 – Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities, quoted prices in markets that are not active or other inputs that are observable or can be derived from observable market data for substantially the full term of the assets or liabilities.

Level 3 – One or more unobservable inputs that are supported by little or no market activity and are significant to the fair value of the assets or liabilities. Level 3 assets and liabilities include financial instruments whose value is determined using internal models, as well as instruments for which the determination of fair value requires significant management judgment or estimation.

When available, the Company generally uses unadjusted quoted market prices from independent sources to determine the fair value of investments, and classifies such items within Level 1 of the fair value hierarchy. If quoted prices are not available, prices are derived from observable market data for similar assets in an active market or obtained directly from brokers for identical assets traded in inactive markets. Investments that are priced using these inputs are classified within Level 2 of the fair value hierarchy. When some of the necessary observable inputs are unavailable, fair value is based upon internally developed models. These models use inputs not directly observable or correlated with observable market data. Typical inputs, which are integrated in the Company's internal discounted cash flow models and discounted earnings models include, but are not limited to, issuer spreads derived from internal credit ratings and benchmark yields such as the LIBOR, cash flow estimates and earnings before interest, taxes, depreciation and amortization estimates. Investments that are priced with such unobservable inputs are classified within Level 3 of the fair value hierarchy.

The Company has established and maintains policies and guidelines that govern its valuation methodologies and their consistent application. These policies and guidelines address the use of inputs, price source hierarchies and provide controls around the valuation processes. These controls include appropriate review and analysis of prices against market activity or indicators for reasonableness, approval of price source changes, price overrides, methodology changes and classification of fair value hierarchy levels. The valuation policies and guidelines are reviewed and updated as appropriate.

Annually, the Company reviews the primary pricing vendor to validate that the inputs used in that vendor's pricing process are deemed to be market observable as defined above. While the Company was not provided access to proprietary models of the vendor, the reviews have included on-site walk-throughs of the pricing process, methodologies and control procedures for each asset class and level for which prices are provided. The review also included an examination of the underlying inputs and assumptions for a sample of individual securities across asset classes. In addition, the Company and its pricing vendors have an established challenge process in place for all security valuations, which facilitates identification and resolution of prices that fall outside expected ranges. The Company believes that the prices received from the pricing vendors are representative of prices that would be received to sell the assets at the applicable measurement date (exit prices) and are classified appropriately in the hierarchy.

The fair value of individual annuity and supplementary contracts is determined using one of several methods based on the specific contract type. For short-term contracts, generally less than 30 days, the fair value is assumed to be the book value. For investment-type contracts, the fair value is determined by calculating the present value of future cash flows discounted at current market interest rates, the risk-free rate or a current pricing yield curve based on pricing assumptions using assets of a comparable corporate bond quality. Annuities are valued using cash flow projections from the Company's asset-liability management analysis.

(1) The following presents the Company's fair value hierarchy for assets and liabilities that are carried at fair value:

December 31, 2023					
	Level 1	Level 2	Level 3	Net Asset (NAV)	Total
Financial assets:					
Separate account assets ⁽¹⁾	\$ 1,151,862,442	\$ 2,286,953,895	\$ -	\$ -	\$ 3,438,816,337
Total financial assets carried at fair value	\$ 1,151,862,442	\$ 2,286,953,895	\$ -	\$ -	\$ 3,438,816,337

⁽¹⁾\$1,233,644,539 of book value separate account assets are not carried at fair value and, therefore, are not included in this table.

For the period ended December 31, 2023, there were no significant transfers between Level 1 and Level 2 and the Company does not have any financial instruments that are carried at NAV as a practical expedient.

December 31, 2022					
	Level 1	Level 2	Level 3	Net Asset Value (NAV)	Total
Financial assets:					
Common stock - unaffiliated	\$ 22,653	\$ -	\$ -	\$ -	\$ 22,653
Separate account assets ⁽¹⁾	1,014,094,845	2,339,975,961	-	-	3,354,070,806
Total financial assets carried at fair value	\$ 1,014,117,498	\$ 2,339,975,961	\$ -	\$ -	\$ 3,354,093,459

⁽¹⁾\$1,134,686,743 of book value separate account assets are not carried at fair value and, therefore, are not included in this table.

- (2) The Company does not have any level 3 financial instruments that are carried at fair value and, therefore, are not included in this table.
- (3) The Company reviews the fair value hierarchy classifications at each reporting period. Overall, reclassifications between levels occur when there are changes in the observability of inputs and market activity used in the valuation of a financial asset or liability. Such reclassifications are reported as transfers between levels at the beginning fair value for the reporting period in which the changes occur. Given the types of assets classified as Level 1 (primarily equity securities and mutual fund investments), transfers between Level 1 and Level 2 measurement categories are expected to be infrequent. Transfers into and out of Level 3 are summarized in the schedule of changes in Level 3 assets and liabilities.
- (4) Valuation Techniques and Inputs

The Company determines the fair value of its investments using primarily the market approach or the income approach. The use of quoted prices for identical assets and matrix pricing or other similar techniques are examples of market approaches, while the use of discounted cash flow methodologies is an example of the income approach. The Company attempts to maximize the use of observable inputs and minimize the use of unobservable inputs in selecting whether the market or the

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income approach is used.

A description of the significant valuation techniques and inputs to the determination of estimated fair value for the more significant asset and liability classes measured at fair value on a recurring basis and categorized within Level 2 and Level 3 of the fair value hierarchy is as follows:

Separate account assets - These assets primarily include bonds (industrial and miscellaneous; U.S. government and agencies) and derivatives. Their fair values are determined as follows:

Bonds (Industrial and miscellaneous) - These securities are principally valued using the market or the income approaches. Level 2 valuations are based primarily on quoted prices in markets that are not active, broker quotes, matrix pricing or other similar techniques that use standard market observable inputs such as benchmark yields, spreads versus benchmark yields, new issuances, issuer ratings, duration, and trades of identical or comparable securities. Privately placed securities are valued using discounted cash flow models using standard market observable inputs, and inputs derived from, or corroborated by, market observable data including market yield curve, duration, call provisions, observable prices and spreads for similar publicly traded or privately traded issuances that incorporate the credit quality and industry sector of the issuer. This level also includes securities priced by independent pricing services that use observable inputs. Valuations based on matrix pricing or other similar techniques that utilize significant unobservable inputs or inputs that cannot be derived principally from, or corroborated by, observable market data, including adjustments for illiquidity, delta spread adjustments or spreads to reflect industry trends or specific credit-related issues are classified as Level 3. In addition, inputs including quoted prices for identical or similar securities that are less liquid and based on lower levels of trading activity than securities classified in Level 2 are classified as Level 3.

Bonds (U.S. government and agencies) - These securities are principally valued using the market approach. Level 2 valuations are based primarily on quoted prices in markets that are not active, or using matrix pricing or other similar techniques using standard market observable inputs such as the benchmark U.S. Treasury yield curve, the spreads versus the U.S. Treasury yield curve for the identical security and comparable securities that are actively traded.

The use of different assumptions or valuation methodologies may have a material impact on the estimated fair value amounts. For the periods presented, there were no significant changes to the Company's valuation techniques.

- (5) Derivative assets and liabilities fair value disclosures on a gross basis are included in paragraph 1 above. Since there are no derivative assets or liabilities classified in Level 3, the reconciliation disclosures required under paragraphs 2 through 4 are not applicable.
- b. The Company provides additional fair value information in Note 21 – Other Items.
- c. The following presents a summary of the carrying values and fair values of the Company's financial instruments:

December 31, 2023								
	Aggregate Fair Value	Admitted Assets	Level 1	Level 2	Level 3	Net Asset Value (NAV)	Not Practicabl (Carrying Value)	
Financial assets:								
Bonds:								
U. S. government and agencies	\$ 4,334,116	\$ 4,332,404	\$ -	\$ 4,334,116	\$ -	\$ -	\$ -	-
Special revenue	24,088,650	23,836,661	-	24,088,650	-	-	-	-
Industrial and miscellaneous	209,706,455	221,004,308	-	209,706,455	-	-	-	-
Parent, subsidiaries and affiliates	912,635	992,990	-	912,635	-	-	-	-
Mortgage loans - residential	1,000,000	1,000,000	-	-	1,000,000	-	-	-
Cash, cash equivalents and short-term investments	67,096,892	67,096,892	1,010,130	66,086,763	-	-	-	-
Separate account assets	4,619,459,244	4,672,460,876	1,151,862,442	3,461,167,307	6,429,495	-	-	-
Financial liabilities:								
Individual annuity contracts	2,432,625	2,432,625	-	-	2,432,625	-	-	-
Supplementary contracts	10,548,857	10,548,857	-	-	10,548,857	-	-	-

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December 31, 2022						Net	Not
						Asset	Practicable
						Value	(Carrying
						(NAV)	Value)
Financial assets:	Aggregate	Admitted	Level 1	Level 2	Level 3		
Bonds:	Fair Value	Assets					
U. S. government and agencies	\$ 4,400,260	\$ 4,445,691	\$ -	\$ 4,400,260	\$ -	\$ -	\$ -
Special revenue	24,839	24,132	-	24,839	-	-	-
Industrial and miscellaneous	192,480,670	207,449,114	-	192,437,800	42,871	-	-
Parent, subsidiaries and affiliates	844,537	993,621	-	844,537	-	-	-
Common stock - unaffiliated	22,653	22,653	22,653	-	-	-	-
Mortgage loans - residential	1,431,279	1,657,058	-	-	1,431,279	-	-
Cash, cash equivalents and short-term investments	111,900,743	111,900,743	1,676,711	110,224,032	-	-	-
Separate account assets	4,473,532,344	4,569,883,814	1,014,094,845	3,452,380,995	7,056,505	-	-
Financial liabilities:							
Individual annuity contracts	2,914,830	2,802,721	-	-	2,914,830	-	-
Supplementary contracts	11,936,662	11,936,662	-	-	11,936,662	-	-

d. As of December 31, 2023 and 2022, the Company had no investments where it was not practicable to estimate fair value.

Note 21 – Other Items

- a. There were no unusual or infrequent items requiring disclosure.
- b. There were no troubled debt restructurings that occurred during the period for which the financial statements are presented.
- c. Other disclosures:
The Company had assets on deposit with government authorities or trustees, as required by law, in the amount of \$4,341,227 as of December 31, 2023 and \$4,444,563 as of December 31, 2022.

Business risks

The Company operates in a business environment subject to various risks and uncertainties. The principal risks include insurance and underwriting risks, investment and interest rate risks and credit risk.

Insurance and underwriting risks

The Company prices its products based on estimated benefit payments reflecting assumptions with respect to mortality, longevity, persistency, interest rates and other factors. If actual policy experience emerges that is significantly and adversely different from assumptions used in product pricing, the effect could be material to the profitability of the Company. The Company reinsures certain life insurance and other long-term care insurance policies to mitigate the impact of its underwriting risk.

Investment and interest rate risks

The fair value, cash flows and earnings of investments can be influenced by a variety of factors including changes in interest rates, credit spreads, equity markets, portfolio asset allocation and general economic conditions. The Company employs a rigorous asset/liability management process to help mitigate the economic impacts of various investment risks, in particular interest rate risk. By effectively matching the market sensitivity of assets with the liabilities they support, the impact of interest rate changes is addressed, on an economic basis, as the change in the value of the asset is offset by a corresponding change in the value of the supported liability.

The levels of U.S. interest rates are influenced by U.S. monetary policies and by the relative attractiveness of U.S. markets to investors versus other global markets. As interest rates increase, certain debt securities may experience amortization or prepayment speeds that are slower than those assumed at purchase, impacting the expected maturity of these securities and the ability to reinvest the proceeds at the higher yields. Rising interest rates may also result in a decrease in the fair value of the investment portfolio. As interest rates decline, certain debt securities may experience accelerated amortization and prepayment speeds than what was assumed at purchase. During such periods, the Company is at risk of lower net investment income as it may not be able to reinvest the proceeds at comparable yields. Declining interest rates may also increase the fair value of the investment portfolio.

Interest rates also have an impact on the Company’s products with guaranteed minimum payouts and on interest credited to account holders. As interest rates decrease, investment spreads may contract as crediting rates approach minimum guarantees, resulting in an increased liability.

In periods of increasing interest rates, policy loans, surrenders and withdrawals may increase as policyholders seek investments with higher perceived returns. This could result in cash outflows requiring the Company to sell invested assets at a time when the prices of those assets are adversely affected by the increase in market interest rates, which could cause the Company to realize investment losses.

Credit and other market risks

The Company manages its investments to limit credit and other market risks by diversifying its portfolio among various security types and industry sectors as well as purchasing credit default swaps to transfer some of the risk.

Stressed conditions, volatility and disruptions in capital markets or financial asset classes can have an adverse effect on the Company, in part because the Company has a large investment portfolio and assets supporting the Company’s insurance liabilities are sensitive to changing market factors. Market factors, including interest rates, credit spread quality, equity prices, consumer spending, business investment, government spending, the volatility and strength of the capital markets, deflation and inflation, all affect the business and economic environment and, ultimately, the profitability of the Company’s business. Disruptions in one market or asset class can also spread to other markets or asset classes. Upheavals in the financial markets can also affect the Company’s business through their effects on general levels of economic activity, employment and customer behavior.

NOTES TO FINANCIAL STATEMENTS

The CMBS, RMBS and leveraged loan sectors are sensitive to evolving conditions that can impair the cash flows realized by investors and is subject to uncertainty. Management's judgment regarding OTTI and estimated fair value depends upon the evolving investment sector and economic conditions. It can also be affected by the market liquidity, a lack of which can make it difficult to obtain accurate market prices for RMBS and other investments, including CMBS and leveraged loans. Any deterioration in economic fundamentals, especially related to the housing sector could affect management's judgment regarding OTTI.

The Company has investments in structured products exposed primarily to the credit risk of corporate bank loans, corporate bonds or credit default swap contracts referencing corporate credit risk. Most of these structured investments are backed by corporate loans and are commonly known as collateralized loan obligations that are classified as CDOs. The portfolios backing these investments are actively managed and diversified by industry and individual issuer concentrations. Due to the complex nature of CDOs and the reduced level of transparency to the underlying collateral pools for many market participants, the recovery in CDO valuations generally lags the overall recovery in the underlying assets. Management believes its scenario analysis approach, based primarily on actual collateral data and forward looking assumptions, does capture the credit and most other risks in each pool. However, in a rapidly changing economic environment, the credit and other risks in each collateral pool will be more volatile and actual credit performance of CDOs may differ from the Company's assumptions.

The Company continuously monitors its investments and assesses their liquidity and financial viability; however, the existence of the factors described above, as well as other market factors, could negatively impact the market value of the Company's investments. If the Company sells its investments prior to maturity or market recovery, these investments may yield a return that is less than the Company otherwise would have been able to realize.

Asset-based fees calculated as a percentage of the separate account assets are a source of revenue to the Company. Gains and losses in the investment markets may result in corresponding increases and decreases in the Company's separate account assets and related revenue.

The long-term impact of the COVID-19 pandemic is dependent on numerous factors including, but not limited to, the length and severity of the pandemic, the efficacy and rate of vaccine adoption and therapeutics, the responses to the pandemic taken by governments and private sector businesses, and the impacts on MassMutual's policyholders, employees and counterparties. At its height, the pandemic led to significant economic disruption, including significant volatility in the U.S. and international markets, which had an adverse effect on MassMutual's business. The extent to which the COVID-19 pandemic continues to impact MassMutual's business will depend on future developments which are highly uncertain, including the emergence of future variants of COVID-19 and the efficacy of vaccines in the broader population (including with respect to future variants).

Political Uncertainties

Political events, domestically or internationally, may directly or indirectly trigger or exacerbate risks related to product offerings, profitability, or any of the risk factors described above. Whether those underlying risk factors are driven by geopolitics or not, the Company's dynamic approach to managing risks enables management to identify risks, internally and externally, develop mitigation plans, and respond to risks in an attempt to proactively reduce the potential impact of each underlying risk factor on the Company.

- d. The Company did not receive any business interruption recoveries in 2023.
- e. The Company did not have unused transferable or non-transferable state tax credits as of December 31, 2023.
- f. Subprime mortgage related risk exposure:
As of December 31, 2023 and 2022, the Company did not have any direct exposure through investments in subprime mortgage loans.

(1) Direct exposure through other investments

RMBS risk exposure:

Portfolios of ABS, including RMBS and CMBS, are evaluated on a periodic basis using scenarios customized by collateral type. The Company performs sensitivity analysis on defaults as loan-to-values change, and on defaults as prepayments change using default curves under various scenarios. The Company combines scenario analysis with a monthly surveillance process in which it compares actual delinquencies and defaults to expectations established at the time securities are acquired as well as expectations considering current market conditions, and performs a statistical review to determine potential losses relative to credit support of troubled loan exposures on a transaction-by-transaction basis.

Management used a combination of external vendor prices, broker quotations and internal models for purposes of deriving fair value. Internal inputs used in the determination of fair value included estimates of prepayment speeds, default rates, discount rates and collateral values, among others. Structure characteristics and results of cash flow priority are also considered. Fair values resulting from internal models are those expected to be received in an orderly transaction between willing market participants at the financial statement date.

The Company holds certain investments backed by pools of residential mortgages. The majority of these investments are included in bonds. The mortgages in these pools have varying risk characteristics and are commonly categorized as being of U.S. government agency, non-agency prime, Alt-A and subprime borrower quality. The Alt-A category includes option adjustable rate mortgages and the subprime category includes 'scratch and dent' or reperforming pools, high loan-to-value pools, and pools where the borrowers have very impaired credit but the average loan-to-value is low, typically 70% or below at origination. In identifying Alt-A and subprime exposure, management used a combination of qualitative and quantitative factors, including FICO scores and loan-to-value ratios.

NOTES TO FINANCIAL STATEMENTS

Residential mortgage loan pools are homogeneous residential mortgage loans substantially backed by FHA and VA guarantees. The Company purchases seasoned loan pools, most of which are FHA insured or VA guaranteed. The Company does not originate any residential mortgages but invests in residential mortgage loan pools which may contain mortgages of subprime credit quality. As of December 31, 2020 and 2019, the Company did not have any direct subprime exposure through purchases of unsecuritized whole-loan pools.

(3) Direct exposure through other investments:

Residential mortgage-backed securities risk exposure:

Alt-A:	December 31, 2023			Year Ended
				December 31, 2023
	Actual Cost	Carrying Value	Fair Value	OTTI
a. Residential mortgage-backed securities	\$ 264,126	\$ 340,947	\$ 344,234	\$ 1,079
b. Commercial mortgage-backed securities	-	-	-	-
c. Collateralized debt obligations	-	-	-	-
d. Structured securities	-	-	-	-
e. Equity investments in SCA	-	-	-	-
f. Other assets	-	-	-	-
g. Total	\$ 264,126	\$ 340,947	\$ 344,234	\$ 1,079

Alt-A:	December 31, 2022			Year Ended
				December 31, 2022
	Actual Cost	Carrying Value	Fair Value	OTTI
a. Residential mortgage-backed securities	\$ 304,996	\$ 380,163	\$ 397,615	\$ -
b. Commercial mortgage-backed securities	-	-	-	-
c. Collateralized debt obligations	-	-	-	-
d. Structured securities	-	-	-	-
e. Equity investments in SCA	-	-	-	-
f. Other assets	-	-	-	-
g. Total	\$ 304,996	\$ 380,163	\$ 397,615	\$ -

(4) The Company has no underwriting exposure to subprime mortgage risk through Mortgage Guaranty or Financial Guaranty insurance coverage.

g. Retained asset accounts:

(1) As of December 31, 2023 and 2022, the Company had no retained asset accounts.

(2)

Retained Asset Accounts In Force
December 31,

	2023		2022	
	Number	Balance	Number	Balance
Account aging categories:				
a. Up to and including 12 months	-	\$ -	-	\$ -
b. 13 to 24 months	-	-	-	-
c. 25 to 36 months	-	-	-	-
d. 37 to 48 months	-	-	-	-
e. 49 to 60 months	-	-	-	-
f. Over 60 months	-	-	-	-
g. Total	-	\$ -	-	\$ -

(3)

	Individual		Group	
	Number	Balance	Number	Balance
a. Retained asset accounts as of January 1, 2023	-	\$ -	-	\$ -
b. Retained asset accounts issued	-	-	-	-
c. Investment earnings credited to retained asset accounts	-	-	-	-
d. Fees and other charges assessed to retained asset accounts	-	-	-	-
e. Retained asset accounts transferred to state unclaimed property funds	-	-	-	-
f. Retained asset accounts closed/withdrawn	-	-	-	-
g. Retained asset accounts as of December 31, 2023	-	\$ -	-	\$ -

h. Insurance-linked securities:

The Company has not received any proceeds as the issuer, ceding insurer or counterparty of insurance-linked securities.

NOTES TO FINANCIAL STATEMENTS

Note 22 – Events Subsequent

Management of the Company has evaluated subsequent events through February 27, 2024, the date the financial statements were available to be issued to state regulators and subsequently on the Company’s website. No events have occurred subsequent to the date of the financial statements.

Note 23 – Reinsurance

- a. Ceded Reinsurance Report:
- Section 1 - General Interrogatories:
- (1) None of the reinsurers, listed in Schedule S as non-affiliated, are owned in excess of 10% or controlled, either directly or indirectly, by the company or by any representative, officer, trustee, or director of the company.
- (2) The Company has not issued any policies that are reinsured with a company chartered in a country other than the United States (excluding U.S. Branches of such companies) that is owned in excess of 10% or controlled directly or indirectly by an insured, a beneficiary, a creditor or any other person not primarily engaged in the insurance business.
- Section 2 - Ceded Reinsurance Report - Part A:
- (1) There are no reinsurance agreements in effect under which the reinsurer may unilaterally cancel any reinsurance for reasons other than for nonpayment of premium or other similar credits.
- (2) The Company has no reinsurance agreements in effect such that the amount of losses paid or accrued through the statement date may result in a payment to the reinsurer of amounts which, in aggregate and allowing for offset of mutual credits from other reinsurance agreements with the same reinsurer, exceed the total direct premium collected under the reinsured policies.
- Section 3 - Ceded Reinsurance Report - Part B:
- (1) If all reinsurance agreements were terminated by either party as of December 31,2023, the resulting reduction in surplus due to loss of reinsurance reserve credits net of unearned premium would be \$11,357,992, assuming no return of the assets (excluding assets in trust) backing these reserves from the reinsurer to the Company.
- (2) No new agreements have been executed or existing agreements amended, since January 1, 2023, to include policies or contracts that were in force or had existing reserves established by the Company as of the effective date of the agreement.
- b. The Company did not write off any reinsurance balances.
- c. The Company did not commute any ceded reinsurance.
- d. The Company did not reinsure any policies with a certified reinsurer whose rating was downgraded or status subject to revocation.
- e. The Company does not have reinsurance of variable annuity contracts with an affiliated captive reinsurer.
- f. The Company does not have reinsurance of variable annuity contracts with an affiliated captive reinsurer.
- g. Ceding entities that utilize captive reinsurers to assume reserves subject to the XXX/AXXX captive framework.
- (1) Ceding reinsurers in which a risk-based capital shortfall exists per the risk-based capital XXX/AXXX captive reinsurance consolidated exhibit:
- a. Captives with risk-based capital shortfall

Cession ID	NAIC Company Code	ID Number	Name of Captive Insurer	Amount of risk-based capital shortfall
			None	\$ -
			None	\$ -
			None	\$ -
Total				-

b. Effect of risk-based capital shortfall on total adjusted capital (TAC)

1. Total adjusted capital (TAC) (Five-Year Historical Line 30)	\$ -
2. Risk-based capital shortfall (Sum of g(1)a1 Column 5)	\$ -
3. Total adjusted capital (TAC) before risk-based capital shortfall (g(1)b1 + g(1)b2))	\$ -

- (2) Captive reinsurers for which a non-zero primary security shortfall is shown on the risk-based capital XXX/AXXX reinsurance primary security shortfall by cession exhibit:

Cession ID	NAIC Company Code	ID Number	Name of Captive Insurer	Amount of primary security shortfall
			None	\$ -
			None	\$ -
			None	\$ -
Total				-

Note 24 – Retrospectively Rated Contracts and Contracts Subject to Redetermination

The Company does not issue group health insurance and therefore did not issue retrospectively rated contracts or contracts subject to redetermination.

NOTES TO FINANCIAL STATEMENTS

Note 25 – Change in Incurred Losses and Loss Adjustment Expenses

There was no increase to reserves in 2023 for incurred losses and loss adjustment expenses attributable to insured events of prior years, which considered corrections of prior year errors.

Note 26 – Intercompany Pooling Arrangements

The Company did not have any intercompany pooling arrangements.

Note 27 – Structured Settlements

The Company did not enter into structured settlement agreements with other life insurers to resolve claims.

Note 28 – Health Care Receivables

The Company did not issue any business that would give rise to pharmaceutical rebates or risk sharing receivables.

Note 29 – Participating Policies

The Company did not issue participating policies.

Note 30 – Premium Deficiency Reserves

The Company did not have any liability for premium deficiency on accident and health contracts or property/casualty contracts.

Note 31 – Reserves for Life Contracts and Annuity Contracts

- a. The Company waives deduction of deferred fractional premium at death and returns any portion of the final premium beyond the date of death. Reserves are computed using continuous functions to reflect these practices. Surrender values were not promised in excess of the legally computed reserves.
- b. The Company charges a higher premium on certain contracts that cover substandard mortality risk. For these policies, the reserve calculations are based on a substandard mortality rate, which is a multiple of the standard mortality tables.
- c. The Company did not have any insurance in force as of December 31, 2023, for which the gross premium was less than the net premium according to the standard valuation set by the Department.
- d. Tabular interest was determined for Variable life general account reserves using a formula that applies a weighted average credited rate to the mean account value.
- e. Liabilities for investment-type contracts such as supplementary contracts not involving life contingencies are based on account value or accepted actuarial methods using applicable interest rates. Refer to Note 20 a. "Fair Value Measurements" for information on the Company's policy for determining fair value.
- f. The details for other changes:

ITEM	Total	Industrial Life	Ordinary			Credit Life Group and Individual	Group	
			Life Ins.	Individual Annuities	Supplementary Contracts		Life Ins.	Annuities
None	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

NOTES TO FINANCIAL STATEMENTS

Note 32 – Analysis of Annuity Actuarial Reserves and Deposit Type Liabilities by Withdrawal Characteristics

The withdrawal characteristics of the Company's annuity actuarial reserves and deposit-type contracts as of December 31, 2023 are illustrated below:

a. INDIVIDUAL ANNUITIES:

	<u>General Account</u>	<u>Separate Account with Guarantees</u>	<u>Separate Account Nonguaranteed</u>	<u>Total</u>	<u>% of Total</u>
(1) Subject to discretionary withdrawal:					
a. With market value adjustment	\$ -	\$ -	\$ -	\$ -	- %
b. At book value less current surrender charge of 5% or more	-	-	-	-	-
c. At fair value	-	-	30,899,281	30,899,281	92
d. Total with market value adjustment or at fair value (total of 1 through 3)	-	-	30,899,281	30,899,281	92
e. At book value without adjustment (minimal or no charge or adjustment)	1,046,702	-	-	1,046,702	3
(2) Not subject to discretionary withdrawal	1,739,016	-	-	1,739,016	5
(3) Total * (gross: direct + assumed)	2,785,718	-	30,899,281	33,684,999	100 %
(4) Reinsurance ceded	-	-	-	-	
(5) Total (net)* (3) - (4)	\$ 2,785,718	\$ -	\$ 30,899,281	\$ 33,684,999	
(6) Amount included A(1)b above that will move to A(1)e for the first time within the year after the statement date:	\$ -	\$ -	\$ -	\$ -	

* Reconciliation of total annuity actuarial reserves and deposit fund liabilities:

b. GROUP ANNUITIES:

	<u>General Account</u>	<u>Separate Account with Guarantees</u>	<u>Separate Account Nonguaranteed</u>	<u>Total</u>	<u>% of Total</u>
(1) Subject to discretionary withdrawal:					
a. With market value adjustment	\$ -	\$ -	\$ -	\$ -	- %
b. At book value less current surrender charge of 5% or more	-	-	-	-	-
c. At fair value	-	-	-	-	-
d. Total with market value adjustment or at fair value (total of 1 through 3)	-	-	-	-	-
e. At book value without adjustment (minimal or no charge or adjustment)	-	-	-	-	-
(2) Not subject to discretionary withdrawal	-	-	-	-	-
(3) Total * (gross: direct + assumed)	-	-	-	-	-
(4) Reinsurance ceded	-	-	-	-	-
(5) Total (net)* (3) - (4)	\$ -	\$ -	\$ -	\$ -	-
(6) Amount included B(1)b above that will move to B(1)e for the first time within the year after the statement date:	\$ -	\$ -	\$ -	\$ -	

NOTES TO FINANCIAL STATEMENTS

c. DEPOSIT-TYPE CONTRACTS
(no life contingencies)

	<u>General Account</u>	<u>Separate Account with Guarantees</u>	<u>Separate Account Nonguaranteed</u>	<u>Total</u>	<u>% of Total</u>
(1) Subject to discretionary withdrawal:					
a. With market value adjustment	\$ -	\$ -	\$ -	\$ -	- %
b. At book value less current surrender charge of 5% or more	-	-	-	-	-
c. At fair value	-	-	-	-	-
d. Total with market value adjustment or at fair value (total of 1 through 3)	-	-	-	-	-
e. At book value without adjustment (minimal or no charge or adjustment)	11,022,651	-	-	11,022,651	99
(2) Not subject to discretionary withdrawal	67,942	-	-	67,942	1
(3) Total * (gross: direct + assumed)	\$ 11,090,593	\$ -	\$ -	\$ 11,090,593	100 %
(4) Reinsurance ceded	-	-	-	-	
(5) Total (net)* (3) - (4)	\$ 11,090,593	\$ -	\$ -	\$ 11,090,593	
(6) Amount included C(1)b above that will move to C(1)e for the first time within the year after the statement date:	\$ -	\$ -	\$ -	\$ -	

d.	<u>Amount</u>
Life and Accident and Health Annual Statement:	
(1) Exhibit 5, Annuities Section, Total (net)	\$ 2,785,718
(2) Exhibit 5, Supplementary Contracts with Life Contingencies Section, Total (net)	-
(3) Exhibit 7, Deposit-Type Contracts, Line 14, Column 1	11,090,594
(4) Subtotal	\$ 13,876,312
Separate Accounts Annual Statement:	
(5) Exhibit 3, Line 0299999, Column 2	30,899,281
(6) Exhibit 3, Line 0399999, Column 2	-
(7) Policyholders dividend and coupon accumulations	-
(8) Policyholder premiums	-
(9) Guaranteed interest contracts	-
(10) Other contract deposit funds	-
(11) Subtotal	\$ 30,899,281
(12) Combined Total	\$ 44,775,593

NOTES TO FINANCIAL STATEMENTS

Note 33 - Analysis of Life Actuarial Reserves by Withdrawal Characteristics

The withdrawal characteristics of the Company's life actuarial reserves as of December 31, 2023 are illustrated below:

	Account Value	Cash Value	Reserve
a. General Account			
(1) Subject to discretionary withdrawal, surrender values, or policy loans			
a. Term Policies with Cash Value	\$ -	\$ -	-
b. Universal Life	-	-	-
c. Universal Life with Secondary Guarantees	-	-	-
d. Indexed Universal Life	-	-	-
e. Indexed Universal Life with Secondary Guarantees	-	-	-
f. Indexed Life	-	-	-
g. Other Permanent Cash Value Life Insurance	-	-	-
h. Variable Life	3,196,624	3,196,624	1,128,585
i. Variable Universal Life	139,997,595	139,303,570	147,683,923
j. Miscellaneous Reserves	-	-	-
(2) Not subject to discretionary withdrawal or no cash values			
a. Term Policies without Cash Value	XXX	XXX	-
b. Accidental Death Benefits	XXX	XXX	1,856
c. Disability - Active Lives	XXX	XXX	21,565
d. Disability - Disabled Lives	XXX	XXX	8,397,772
e. Miscellaneous Reserves	XXX	XXX	2,716,409
(3) Total (gross: direct + assumed)	\$ 143,194,219	\$ 142,500,194	\$ 159,950,110
(4) Reinsurance Ceded	-	-	21,049,905
(5) Total (net) (3) - (4)	\$ 143,194,219	\$ 142,500,194	\$ 138,900,205
	Account Value	Cash Value	Reserve
b. Separate Account with Guarantees			
(1) Subject to discretionary withdrawal, surrender values, or policy loans			
a. Term Policies with Cash Value	\$ -	\$ -	-
b. Universal Life	-	-	-
c. Universal Life with Secondary Guarantees	-	-	-
d. Indexed Universal Life	-	-	-
e. Indexed Universal Life with Secondary Guarantees	-	-	-
f. Indexed Life	-	-	-
g. Other Permanent Cash Value Life Insurance	-	-	-
h. Variable Life	-	-	-
i. Variable Universal Life	3,434,204,328	3,428,098,617	3,434,204,196
j. Miscellaneous Reserves	-	-	-
(2) Not subject to discretionary withdrawal or no cash values			
a. Term Policies without Cash Value	XXX	XXX	-
b. Accidental Death Benefits	XXX	XXX	-
c. Disability - Active Lives	XXX	XXX	-
d. Disability - Disabled Lives	XXX	XXX	-
e. Miscellaneous Reserves	XXX	XXX	-
(3) Total (gross: direct + assumed)	\$ 3,434,204,328	\$ 3,428,098,617	\$ 3,434,204,196
(4) Reinsurance Ceded	-	-	-
(5) Total (net) (3) - (4)	\$ 3,434,204,328	\$ 3,428,098,617	\$ 3,434,204,196
	Account Value	Cash Value	Reserve
c. Separate Account Nonguaranteed			
(1) Subject to discretionary withdrawal, surrender values, or policy loans			
a. Term Policies with Cash Value	\$ -	\$ -	-
b. Universal Life	-	-	-
c. Universal Life with Secondary Guarantees	-	-	-
d. Indexed Universal Life	-	-	-
e. Indexed Universal Life with Secondary Guarantees	-	-	-
f. Indexed Life	-	-	-
g. Other Permanent Cash Value Life Insurance	-	-	-
h. Variable Life	7,156,570	7,156,570	11,878,252
i. Variable Universal Life	1,175,219,891	1,173,957,219	1,174,942,707
j. Miscellaneous Reserves	-	-	-
(2) Not subject to discretionary withdrawal or no cash values			
a. Term Policies without Cash Value	XXX	XXX	-
b. Accidental Death Benefits	XXX	XXX	-
c. Disability - Active Lives	XXX	XXX	-
d. Disability - Disabled Lives	XXX	XXX	-
e. Miscellaneous Reserves	XXX	XXX	-
(3) Total (gross: direct + assumed)	\$ 1,182,376,461	\$ 1,181,113,789	\$ 1,186,820,959
(4) Reinsurance Ceded	-	-	-
(5) Total (net) (3) - (4)	\$ 1,182,376,461	\$ 1,181,113,789	\$ 1,186,820,959

NOTES TO FINANCIAL STATEMENTS

d.		Amount
	Life and Accident and Health Annual Statement:	
(1)	Exhibit 5, Life Insurance Section, Total (net)	\$ 127,762,603
(2)	Exhibit 5, Accidental Death Benefits Section, Total (net)	1,856
(3)	Exhibit 5, Disability - Active Lives Section, Total (net)	21,565
(4)	Exhibit 5, Disability - Disabled Lives Section, Total (net)	8,397,772
(5)	Exhibit 5, Miscellaneous Reserves Section, Total (net)	2,716,409
(6)	Subtotal	138,900,205
	Separate Accounts Annual Statement:	
(7)	Exhibit 3, Line 0199999, Column 2	4,621,025,155
(8)	Exhibit 3, Line 0499999, Column 2	-
(9)	Exhibit 3, Line 0599999, Column 2	-
(10)	Subtotal (Lines (7) through (9))	4,621,025,155
(11)	Combined Total (Lines (6) and (10))	\$ 4,759,925,360

Note 34 – Premium and Annuity Considerations Deferred and Uncollected

- a. Deferred and uncollected life insurance premiums and annuity considerations as of December 31, 2023, were as follows:

	Type	Gross	Net of Loading
(1)	Industrial	\$ -	\$ -
(2)	Ordinary new business	-	-
(3)	Ordinary renewal	(3,000,546)	(3,000,546)
(4)	Credit life	-	-
(5)	Group life	-	-
(6)	Group annuity	-	-
(7)	Totals	\$ (3,000,546)	\$ (3,000,546)

Note 35 – Separate Accounts

- a. Separate account activity:
- (1) Separate accounts and sub-accounts are segregated funds administered and invested by the Company, the performance of which primarily benefits the policyholders/contract holders with an interest in the separate accounts. Group and individual variable annuity, variable life and other insurance policyholders/contract holders select from among the separate accounts and sub-accounts made available by the Company. The separate accounts and sub-accounts are offered as investment options under certain insurance contracts or policies. The returns produced by separate account assets increase or decrease separate account reserves. Separate account assets consist principally of marketable securities reported at fair value. Separate account assets can only be used to satisfy separate account liabilities and are not available to satisfy the general obligations of the Company. Separate account administrative and investment advisory fees are included in miscellaneous income.

The separate account classification of all separate account products for the Company is supported by state statute Connecticut Laws Title 38a, Chapter 700b, Sections 38a-433 & 459.

- (2) In accordance with the products recorded within the separate accounts, some are considered legally insulated whereas others are not legally insulated from the general account. The legal insulation of the separate account products prevents assets other than seed money or amounts in a supplemental account from being generally available to satisfy claims resulting from the general account.

As of December 31, 2023 and 2022, the Company's NAIC Separate Account Annual Statement included Separate Accounts with legally insulated products of \$ 4,671,020,296 and \$4,564,593,946, respectively. Assets backing products which are not legally insulated are available to satisfy general obligations of the Company. The assets backing legally insulated products from the general account as of December 31, 2023 are attributed to the following:

Product/Transaction:	Separate Account Assets	
	Legally Insulated	Not Legally Insulated
Stable Value Bank-Owned Life Insurance	\$ 2,218,013,977	\$ -
Bank-Owned Life Insurance - Guaranteed	1,232,203,960	1,440,580
Individual Variable Universal Life	775,473,186	-
Corporate-Owned Life Insurance	414,416,067	-
Individual Variable Annuity	30,913,106	-
Total	\$ 4,671,020,296	\$ 1,440,580

- (3) In accordance with the products/transactions recorded within the separate accounts, some separate account liabilities are guaranteed by the general account. Reserves for guarantees covering death benefits or minimum rates of return are held in the general account. If the investment proceeds are insufficient to cover the rate of return guaranteed for the product or the guaranteed death benefit, the policyholder proceeds will be remitted by the general account.

To compensate the general account for the risk taken, the separate accounts have paid risk charges as follows for the past five years:

2023	\$ -
2022	-
2021	-
2020	-
2019	-

NOTES TO FINANCIAL STATEMENTS

For the year ended December 31, 2023, the general account of the Company had paid \$149,629 toward separate account guarantees. The total separate account guarantees paid by the general account for the preceding years ending December 31, 2022, 2021, 2020, and 2019 was \$93,873, \$158,161, \$107,117, and \$97,757, respectively.

The following separate account products would be classified differently under GAAP than under Statutory accounting principles:

Condition That Requires GAAP General Account Reporting

Product Identifier:
Stable Value Bank-Owned Life Insurance GAAP general account classification due to Investment performance
Bank-Owned Life Insurance - Guaranteed GAAP general account classification due to Investment performance

- (4) The Company does not engage in securities lending transactions within the separate accounts.
- b. General nature and characteristics of separate account business:
The Company has guaranteed separate accounts classified as the following: nonindexed, which have reserve interest rates at no greater than 4% and/or to fund a long-term interest guarantee in excess of a year that does not exceed 4%. The Company has nonguaranteed separate accounts that are variable accounts where the benefit is determined by the performance and/or market value of the investments held in the separate account with incidental risk, notional expense and minimum death benefit guarantees.

Information regarding the separate accounts of the Company as of and for the year ended December 31, 2023 is as follows:

	Index	Nonindexed Guarantee Less than/ Equal to 4%	Nonindexed Guarantee More than 4%	Nonguaranteed Separate Accounts	Total
(1) Premiums, considerations or deposits as of the end of current period	\$ -	\$ -	\$ -	23,567,736\$	23,567,736
Reserves as of the end of current period					
(2) For accounts with assets at:					
a. Fair value	\$ -	\$ -	\$ -	1,217,720,241 \$	1,217,720,241
b. Nonpolicy liabilities	-	254,393	-	20,282,046	20,536,439
c. Amortized cost	-	3,434,204,195	-	-	3,434,204,195
d. Total Reserves*	\$ -	\$ 3,434,458,588	\$ -	\$ 1,238,002,287	\$ 4,672,460,875
(3) By withdrawal characteristics:					
a. Subject to discretionary withdrawal:	\$ -	\$ -	\$ -	\$ -	-
1. With market value adjustment	-	-	-	-	-
2. At fair value	-	-	-	1,217,720,241	1,217,720,241
3. At book value, without market value adjustment and with current surrender charge of less than 5%	-	3,434,204,195	-	-	3,434,204,195
4. Nonpolicy liabilities	-	254,393	-	20,282,046	20,536,439
5. Subtotal	\$ -	\$ 3,434,458,588	\$ -	\$ 1,238,002,287	\$ 4,672,460,875
b. Not subject to discretionary withdrawal	-	-	-	-	-
c. Total	\$ -	\$ 13,687,766,007	\$ -	\$ 13,687,766,007	\$ 27,375,532,014
(4) Reserves for Assets Default Risk in Lieu of AVR	\$ -	\$ 13,687,766,007	\$ -	\$ 13,687,766,007	-

*Line 2(d) should equal Line 3(c)

- c. Reconciliation of net transfers (from) to separate accounts is as follows:

	December 31, 2023
(1) Transfers as reported in the Summary of Operations of the Separate Account Statement:	
(a) Transfers to separate accounts (Page 4, Line 1.4 and 2)	\$ 23,567,735
(b) Transfers from separate accounts (Page 4, Line 10)	(86,261,288)
(c) Net transfers to (from) separate accounts (a) - (b)	(62,693,553)
(2) Reconciling adjustments:	
(1c) + (2) = (Page 4, Line 26)	(62,693,553)

Note 36 – Loss/Claim Adjustment Expenses

The Company did not have any loss/claim adjustment expenses.

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

GENERAL INTERROGATORIES

PART 1 - COMMON INTERROGATORIES

GENERAL

1.1

Is the reporting entity a member of an Insurance Holding Company System consisting of two or more affiliated persons, one or more of which is an insurer?
If yes, complete Schedule Y, Parts 1, 1A, 2 and 3.

Yes [X] No []

1.2

If yes, did the reporting entity register and file with its domiciliary State Insurance Commissioner, Director or Superintendent or with such regulatory official of the state of domicile of the principal insurer in the Holding Company System, a registration statement providing disclosure substantially similar to the standards adopted by the National Association of Insurance Commissioners (NAIC) in its Model Insurance Holding Company System Regulatory Act and model regulations pertaining thereto, or is the reporting entity subject to standards and disclosure requirements substantially similar to those required by such Act and regulations?

Yes [X] No [] N/A []

1.3

State Regulating?

CT

1.4

Is the reporting entity publicly traded or a member of a publicly traded group?

Yes [] No [X]

1.5

If the response to 1.4 is yes, provide the CIK (Central Index Key) code issued by the SEC for the entity/group.

2.1

Has any change been made during the year of this statement in the charter, by-laws, articles of incorporation, or deed of settlement of the reporting entity?

Yes [] No [X]

2.2

If yes, date of change:

3.1

State as of what date the latest financial examination of the reporting entity was made or is being made.

12/31/2019

3.2

State the as of date that the latest financial examination report became available from either the state of domicile or the reporting entity. This date should be the date of the examined balance sheet and not the date the report was completed or released.

12/31/2019

3.3

State as of what date the latest financial examination report became available to other states or the public from either the state of domicile or the reporting entity. This is the release date or completion date of the examination report and not the date of the examination (balance sheet date).

06/16/2021

3.4

By what department or departments?
State of Connecticut Insurance Department

3.5

Have all financial statement adjustments within the latest financial examination report been accounted for in a subsequent financial statement filed with Departments?

Yes [] No [] N/A [X]

3.6

Have all of the recommendations within the latest financial examination report been complied with?

Yes [X] No [] N/A []

4.1

During the period covered by this statement, did any agent, broker, sales representative, non-affiliated sales/service organization or any combination thereof under common control (other than salaried employees of the reporting entity), receive credit or commissions for or control a substantial part (more than 20 percent of any major line of business measured on direct premiums) of:
4.11 sales of new business?
4.12 renewals?

Yes [] No [X]
Yes [] No [X]

4.2

During the period covered by this statement, did any sales/service organization owned in whole or in part by the reporting entity or an affiliate, receive credit or commissions for or control a substantial part (more than 20 percent of any major line of business measured on direct premiums) of:
4.21 sales of new business?
4.22 renewals?

Yes [] No [X]
Yes [] No [X]

5.1

Has the reporting entity been a party to a merger or consolidation during the period covered by this statement?
If yes, complete and file the merger history data file with the NAIC.

Yes [] No [X]

5.2

If yes, provide the name of the entity, NAIC Company Code, and state of domicile (use two letter state abbreviation) for any entity that has ceased to exist as a result of the merger or consolidation.

1 Name of Entity	2 NAIC Company Code	3 State of Domicile

6.1

Has the reporting entity had any Certificates of Authority, licenses or registrations (including corporate registration, if applicable) suspended or revoked by any governmental entity during the reporting period?

Yes [] No [X]

6.2

If yes, give full information:

7.1

Does any foreign (non-United States) person or entity directly or indirectly control 10% or more of the reporting entity?

Yes [] No [X]

7.2

If yes,
7.21 State the percentage of foreign control; %
7.22 State the nationality(s) of the foreign person(s) or entity(s); or if the entity is a mutual or reciprocal, the nationality of its manager or attorney-in-fact and identify the type of entity(s) (e.g., individual, corporation, government, manager or attorney-in-fact).

1 Nationality	2 Type of Entity

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

GENERAL INTERROGATORIES

- 8.1 Is the company a subsidiary of a depository institution holding company (DIHC) or a DIHC itself, regulated by the Federal Reserve Board? Yes [] No [X]
- 8.2 If the response to 8.1 is yes, please identify the name of the DIHC.
.....
- 8.3 Is the company affiliated with one or more banks, thrifts or securities firms? Yes [X] No []
- 8.4 If response to 8.3 is yes, please provide below the names and location (city and state of the main office) of any affiliates regulated by a federal regulatory services agency [i.e. the Federal Reserve Board (FRB), the Office of the Comptroller of the Currency (OCC), the Federal Deposit Insurance Corporation (FDIC) and the Securities Exchange Commission (SEC)] and identify the affiliate's primary federal regulator.

1 Affiliate Name	2 Location (City, State)	3 FRB	4 OCC	5 FDIC	6 SEC
Barings LLC	Charlotte, NC .....	.....	.....	.....	YES.....
Baring International Investment Limited	London, UK .....	.....	.....	.....	YES.....
Barings Securities LLC	Charlotte, NC .....	.....	.....	.....	YES.....
MML Distributors, LLC	Springfield, MA .....	.....	.....	.....	YES.....
MML Investment Advisers, LLC	Springfield, MA .....	.....	.....	.....	YES.....
MML Investors Services, LLC	Springfield, MA .....	.....	.....	.....	YES.....
MML Strategic Distributors, LLC	Springfield, MA .....	.....	.....	.....	YES.....
The MassMutual Trust Company, OCC	Windsor, CT .....	.....	...YES.....	.....	.....
Flourish Financial, LLC	New York, NY .....	.....	.....	.....	YES.....
.....

- 8.5 Is the reporting entity a depository institution holding company with significant insurance operations as defined by the Board of Governors of Federal Reserve System or a subsidiary of the depository institution holding company? Yes [] No [X]
- 8.6 If response to 8.5 is no, is the reporting entity a company or subsidiary of a company that has otherwise been made subject to the Federal Reserve Board's capital rule? Yes [] No [X] N/A []
9. What is the name and address of the independent certified public accountant or accounting firm retained to conduct the annual audit?
KPMG, LLP, One Financial Plaza, Hartford, CT 06103
- 10.1 Has the insurer been granted any exemptions to the prohibited non-audit services provided by the certified independent public accountant requirements as allowed in Section 7H of the Annual Financial Reporting Model Regulation (Model Audit Rule), or substantially similar state law or regulation? Yes [] No [X]
- 10.2 If the response to 10.1 is yes, provide information related to this exemption:
.....
- 10.3 Has the insurer been granted any exemptions related to the other requirements of the Annual Financial Reporting Model Regulation as allowed for in Section 18A of the Model Regulation, or substantially similar state law or regulation? Yes [] No [X]
- 10.4 If the response to 10.3 is yes, provide information related to this exemption:
.....
- 10.5 Has the reporting entity established an Audit Committee in compliance with the domiciliary state insurance laws? Yes [X] No [] N/A []
- 10.6 If the response to 10.5 is no or n/a, please explain.
NA
11. What is the name, address and affiliation (officer/employee of the reporting entity or actuary/consultant associated with an actuarial consulting firm) of the individual providing the statement of actuarial opinion/certification?
Vy Q. Ho, Head of Valuation and Appointed Actuary Massachusetts Mutual Life Insurance Company 1295 State Street, Springfield, MA 01111
Telephone:413-744-1142 Email: VHo66@massmutual.com
- 12.1 Does the reporting entity own any securities of a real estate holding company or otherwise hold real estate indirectly? Yes [X] No []
- 12.11 Name of real estate holding company ... See 12.2
- 12.12 Number of parcels involved 14
- 12.13 Total book/adjusted carrying value \$ 9,934,236
- 12.2 If yes, provide explanation
The company has investments in debt securities in 14 parcels, which own or hold real estate indirectly. The statement value at December 31, 2023 of debt is \$9,934,236.
13. FOR UNITED STATES BRANCHES OF ALIEN REPORTING ENTITIES ONLY:
- 13.1 What changes have been made during the year in the United States manager or the United States trustees of the reporting entity?
.....
- 13.2 Does this statement contain all business transacted for the reporting entity through its United States Branch on risks wherever located? Yes [] No []
- 13.3 Have there been any changes made to any of the trust indentures during the year? Yes [] No []
- 13.4 If answer to (13.3) is yes, has the domiciliary or entry state approved the changes? Yes [] No [] N/A [X]
- 14.1 Are the senior officers (principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions) of the reporting entity subject to a code of ethics, which includes the following standards? Yes [X] No []
- a. Honest and ethical conduct, including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships;
- b. Full, fair, accurate, timely and understandable disclosure in the periodic reports required to be filed by the reporting entity;
- c. Compliance with applicable governmental laws, rules and regulations;
- d. The prompt internal reporting of violations to an appropriate person or persons identified in the code; and
- e. Accountability for adherence to the code.
- 14.11 If the response to 14.1 is No, please explain:
.....
- 14.2 Has the code of ethics for senior managers been amended? Yes [X] No []
- 14.21 If the response to 14.2 is yes, provide information related to amendment(s).
Code has been updated to reflect policy name changes and removed policy links from the document. Additionally it has been updated to modernize and make more user friendly.
- 14.3 Have any provisions of the code of ethics been waived for any of the specified officers? Yes [] No [X]
- 14.31 If the response to 14.3 is yes, provide the nature of any waiver(s).
.....

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

GENERAL INTERROGATORIES

- 15.1 Is the reporting entity the beneficiary of a Letter of Credit that is unrelated to reinsurance where the issuing or confirming bank is not on the SVO Bank List? Yes [] No [X]
- 15.2 If the response to 15.1 is yes, indicate the American Bankers Association (ABA) Routing Number and the name of the issuing or confirming bank of the Letter of Credit and describe the circumstances in which the Letter of Credit is triggered.

1 American Bankers Association (ABA) Routing Number	2 Issuing or Confirming Bank Name	3 Circumstances That Can Trigger the Letter of Credit	4 Amount

BOARD OF DIRECTORS

16. Is the purchase or sale of all investments of the reporting entity passed upon either by the board of directors or a subordinate committee thereof? Yes [X] No []
17. Does the reporting entity keep a complete permanent record of the proceedings of its board of directors and all subordinate committees thereof? Yes [X] No []
18. Has the reporting entity an established procedure for disclosure to its board of directors or trustees of any material interest or affiliation on the part of any of its officers, directors, trustees or responsible employees that is in conflict or is likely to conflict with the official duties of such person? Yes [X] No []

FINANCIAL

19. Has this statement been prepared using a basis of accounting other than Statutory Accounting Principles (e.g., Generally Accepted Accounting Principles)? Yes [] No [X]
- 20.1 Total amount loaned during the year (inclusive of Separate Accounts, exclusive of policy loans):

20.11 To directors or other officers\$

20.12 To stockholders not officers\$

20.13 Trustees, supreme or grand (Fraternal Only) \$
- 20.2 Total amount of loans outstanding at the end of year (inclusive of Separate Accounts, exclusive of policy loans):

20.21 To directors or other officers\$

20.22 To stockholders not officers\$

20.23 Trustees, supreme or grand (Fraternal Only) \$
- 21.1 Were any assets reported in this statement subject to a contractual obligation to transfer to another party without the liability for such obligation being reported in the statement? Yes [] No [X]
- 21.2 If yes, state the amount thereof at December 31 of the current year:

21.21 Rented from others\$

21.22 Borrowed from others\$

21.23 Leased from others \$

21.24 Other \$
- 22.1 Does this statement include payments for assessments as described in the Annual Statement Instructions other than guaranty fund or guaranty association assessments? Yes [] No [X]
- 22.2 If answer is yes:

22.21 Amount paid as losses or risk adjustment \$

22.22 Amount paid as expenses \$

22.23 Other amounts paid \$
- 23.1 Does the reporting entity report any amounts due from parent, subsidiaries or affiliates on Page 2 of this statement? Yes [X] No []
- 23.2 If yes, indicate any amounts receivable from parent included in the Page 2 amount: \$
- 24.1 Does the insurer utilize third parties to pay agent commissions in which the amounts advanced by the third parties are not settled in full within 90 days? Yes [] No [X]
- 24.2 If the response to 24.1 is yes, identify the third-party that pays the agents and whether they are a related party.

Name of Third-Party	Is the Third-Party Agent a Related Party (Yes/No)

INVESTMENT

- 25.01 Were all the stocks, bonds and other securities owned December 31 of current year, over which the reporting entity has exclusive control, in the actual possession of the reporting entity on said date? (other than securities lending programs addressed in 25.03) Yes [X] No []

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

GENERAL INTERROGATORIES

25.02 If no, give full and complete information, relating thereto

25.03 For securities lending programs, provide a description of the program including value for collateral and amount of loaned securities, and whether collateral is carried on or off-balance sheet. (an alternative is to reference Note 17 where this information is also provided)
N/A

25.04 For the reporting entity's securities lending program, report amount of collateral for conforming programs as outlined in the Risk-Based Capital Instructions. \$

25.05 For the reporting entity's securities lending program, report amount of collateral for other programs. \$

25.06 Does your securities lending program require 102% (domestic securities) and 105% (foreign securities) from the counterparty at the outset of the contract? Yes [] No [] N/A [X]

25.07 Does the reporting entity non-admit when the collateral received from the counterparty falls below 100%? Yes [] No [] N/A [X]

25.08 Does the reporting entity or the reporting entity's securities lending agent utilize the Master Securities lending Agreement (MSLA) to conduct securities lending? Yes [] No [] N/A [X]

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

25.091 Total fair value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2. \$

25.092 Total book/adjusted carrying value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2 \$

25.093 Total payable for securities lending reported on the liability page. \$

26.1 Were any of the stocks, bonds or other assets of the reporting entity owned at December 31 of the current year not exclusively under the control of the reporting entity or has the reporting entity sold or transferred any assets subject to a put option contract that is currently in force? (Exclude securities subject to Interrogatory 21.1 and 25.03). Yes [X] No []

26.2 If yes, state the amount thereof at December 31 of the current year:

26.21 Subject to repurchase agreements \$

26.22 Subject to reverse repurchase agreements \$

26.23 Subject to dollar repurchase agreements \$

26.24 Subject to reverse dollar repurchase agreements \$

26.25 Placed under option agreements \$

26.26 Letter stock or securities restricted as to sale - excluding FHLB Capital Stock \$

26.27 FHLB Capital Stock \$

26.28 On deposit with states 4,341,226

26.29 On deposit with other regulatory bodies \$

26.30 Pledged as collateral - excluding collateral pledged to an FHLB \$

26.31 Pledged as collateral to FHLB - including assets backing funding agreements \$

26.32 Other \$

26.3 For category (26.26) provide the following:

1 Nature of Restriction	2 Description	3 Amount

27.1 Does the reporting entity have any hedging transactions reported on Schedule DB? Yes [] No [X]

27.2 If yes, has a comprehensive description of the hedging program been made available to the domiciliary state? Yes [] No [] N/A [X]
If no, attach a description with this statement.

LINES 27.3 through 27.5: FOR LIFE/FRATERNAL REPORTING ENTITIES ONLY:

27.3 Does the reporting entity utilize derivatives to hedge variable annuity guarantees subject to fluctuations as a result of interest rate sensitivity? Yes [] No [X]

27.4 If the response to 27.3 is YES, does the reporting entity utilize:

27.41 Special accounting provision of SSAP No. 108 Yes [] No [X]

27.42 Permitted accounting practice Yes [] No [X]

27.43 Other accounting guidance Yes [] No [X]

27.5 By responding YES to 27.41 regarding utilizing the special accounting provisions of SSAP No. 108, the reporting entity attests to the following:

The reporting entity has obtained explicit approval from the domiciliary state.

Hedging strategy subject to the special accounting provisions is consistent with the requirements of VM-21.

Actuarial certification has been obtained which indicates that the hedging strategy is incorporated within the establishment of VM-21 reserves and provides the impact of the hedging strategy within the Actuarial Guideline Conditional Tail Expectation Amount.

Financial Officer Certification has been obtained which indicates that the hedging strategy meets the definition of a Clearly Defined Hedging Strategy within VM-21 and that the Clearly Defined Hedging Strategy is the hedging strategy being used by the company in its actual day-to-day risk mitigation efforts.

Yes [] No [X]

28.1 Were any preferred stocks or bonds owned as of December 31 of the current year mandatorily convertible into equity, or, at the option of the issuer, convertible into equity? Yes [] No [X]

28.2 If yes, state the amount thereof at December 31 of the current year. \$

29. Excluding items in Schedule E - Part 3 - Special Deposits, real estate, mortgage loans and investments held physically in the reporting entity's offices, vaults or safety deposit boxes, were all stocks, bonds and other securities, owned throughout the current year held pursuant to a custodial agreement with a qualified bank or trust company in accordance with Section 1, III - General Examination Considerations, F. Outsourcing of Critical Functions, Custodial or Safekeeping Agreements of the NAIC Financial Condition Examiners Handbook? Yes [X] No []

29.01 For agreements that comply with the requirements of the NAIC Financial Condition Examiners Handbook, complete the following:

1 Name of Custodian(s)	2 Custodian's Address
Citibank, N.A.	333 West 34th Street, New York, NY 10001

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

GENERAL INTERROGATORIES

29.02 For all agreements that do not comply with the requirements of the NAIC Financial Condition Examiners Handbook, provide the name, location and a complete explanation:

1 Name(s)	2 Location(s)	3 Complete Explanation(s)

29.03 Have there been any changes, including name changes, in the custodian(s) identified in 29.01 during the current year?..... Yes [] No [X]

29.04 If yes, give full and complete information relating thereto:

1 Old Custodian	2 New Custodian	3 Date of Change	4 Reason

29.05 Investment management – Identify all investment advisors, investment managers, broker/dealers, including individuals that have the authority to make investment decisions on behalf of the reporting entity. For assets that are managed internally by employees of the reporting entity, note as such. ["...that have access to the investment accounts"; "...handle securities"]

1 Name of Firm or Individual	2 Affiliation
Bar ings LLC	A.....

29.0597 For those firms/individuals listed in the table for Question 29.05, do any firms/individuals unaffiliated with the reporting entity (i.e. designated with a "U") manage more than 10% of the reporting entity's invested assets?..... Yes [] No [X]

29.0598 For firms/individuals unaffiliated with the reporting entity (i.e. designated with a "U") listed in the table for Question 29.05, does the total assets under management aggregate to more than 50% of the reporting entity's invested assets?..... Yes [] No [X]

29.06 For those firms or individuals listed in the table for 29.05 with an affiliation code of "A" (affiliated) or "U" (unaffiliated), provide the information for the table below.

1 Central Registration Depository Number	2 Name of Firm or Individual	3 Legal Entity Identifier (LEI)	4 Registered With	5 Investment Management Agreement (IMA) Filed
106006	Bar ings LLC	549300G36F1EZS4MQM37	SEC	DS.....

30.1 Does the reporting entity have any diversified mutual funds reported in Schedule D, Part 2 (diversified according to the Securities and Exchange Commission (SEC) in the Investment Company Act of 1940 [Section 5(b)(1)])? Yes [] No [X]

30.2 If yes, complete the following schedule:

1 CUSIP #	2 Name of Mutual Fund	3 Book/Adjusted Carrying Value
30.2999 - Total		

30.3 For each mutual fund listed in the table above, complete the following schedule:

1 Name of Mutual Fund (from above table)	2 Name of Significant Holding of the Mutual Fund	3 Amount of Mutual Fund's Book/Adjusted Carrying Value Attributable to the Holding	4 Date of Valuation

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

GENERAL INTERROGATORIES

31. Provide the following information for all short-term and long-term bonds and all preferred stocks. Do not substitute amortized value or statement value for fair value.

	1	2	3
	Statement (Admitted) Value	Fair Value	Excess of Statement over Fair Value (-), or Fair Value over Statement (+)
31.1 Bonds	316,253,125	305,679,021	(10,574,104)
31.2 Preferred stocks			
31.3 Totals	316,253,125	305,679,021	(10,574,104)

31.4 Describe the sources or methods utilized in determining the fair values:
The Fair Value of securities is obtained using quoted market prices when available. If not available, estimated fair value is based on values provided by other third-party organizations. If values provided by other third-party organizations are unavailable, fair value is estimated using internal models by discounting future cash flows using observable current market rates applicable to yield, credit quality and maturity of the investment or using quoted market values for comparable investments. Internal inputs used in the determination of fair value include estimated prepayment speeds, default rates, discount rates and collateral values, among others. Structure characteristics and results of cash flow priority are also considered.

32.1 Was the rate used to calculate fair value determined by a broker or custodian for any of the securities in Schedule D? Yes [X] No []

32.2 If the answer to 32.1 is yes, does the reporting entity have a copy of the broker's or custodian's pricing policy (hard copy or electronic copy) for all brokers or custodians used as a pricing source? Yes [X] No []

32.3 If the answer to 32.2 is no, describe the reporting entity's process for determining a reliable pricing source for purposes of disclosure of fair value for Schedule D:

33.1 Have all the filing requirements of the Purposes and Procedures Manual of the NAIC Investment Analysis Office been followed? Yes [X] No []

33.2 If no, list exceptions:

34. By self-designating 5GI securities, the reporting entity is certifying the following elements of each self-designated 5GI security:
a. Documentation necessary to permit a full credit analysis of the security does not exist or an NAIC CRP credit rating for an FE or PL security is not available.
b. Issuer or obligor is current on all contracted interest and principal payments.
c. The insurer has an actual expectation of ultimate payment of all contracted interest and principal.
Has the reporting entity self-designated 5GI securities? Yes [] No [X]

35. By self-designating PLGI securities, the reporting entity is certifying the following elements of each self-designated PLGI security:
a. The security was purchased prior to January 1, 2018.
b. The reporting entity is holding capital commensurate with the NAIC Designation reported for the security.
c. The NAIC Designation was derived from the credit rating assigned by an NAIC CRP in its legal capacity as a NRSRO which is shown on a current private letter rating held by the insurer and available for examination by state insurance regulators.
d. The reporting entity is not permitted to share this credit rating of the PL security with the SVO.
Has the reporting entity self-designated PLGI securities? Yes [] No [X]

36. By assigning FE to a Schedule BA non-registered private fund, the reporting entity is certifying the following elements of each self-designated FE fund:
a. The shares were purchased prior to January 1, 2019.
b. The reporting entity is holding capital commensurate with the NAIC Designation reported for the security.
c. The security had a public credit rating(s) with annual surveillance assigned by an NAIC CRP in its legal capacity as an NRSRO prior to January 1, 2019.
d. The fund only or predominantly holds bonds in its portfolio.
e. The current reported NAIC Designation was derived from the public credit rating(s) with annual surveillance assigned by an NAIC CRP in its legal capacity as an NRSRO.
f. The public credit rating(s) with annual surveillance assigned by an NAIC CRP has not lapsed.
Has the reporting entity assigned FE to Schedule BA non-registered private funds that complied with the above criteria? Yes [] No [X]

37. By rolling/renewing short-term or cash equivalent investments with continued reporting on Schedule DA, Part 1 or Schedule E Part 2 (identified through a code (%) in those investment schedules), the reporting entity is certifying to the following:
a. The investment is a liquid asset that can be terminated by the reporting entity on the current maturity date.
b. If the investment is with a nonrelated party or nonaffiliate, then it reflects an arms-length transaction with renewal completed at the discretion of all involved parties.
c. If the investment is with a related party or affiliate, then the reporting entity has completed robust re-underwriting of the transaction for which documentation is available for regulator review.
d. Short-term and cash equivalent investments that have been renewed/rolled from the prior period that do not meet the criteria in 37.a - 37.c are reported as long-term investments.
Has the reporting entity rolled/renewed short-term or cash equivalent investments in accordance with these criteria? Yes [] No [X] N/A []

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

GENERAL INTERROGATORIES

- 38.1

Does the reporting entity directly hold cryptocurrencies?

Yes [] No [X]
- 38.2

If the response to 38.1 is yes, on what schedule are they reported?
.....
- 39.1

Does the reporting entity directly or indirectly accept cryptocurrencies as payments for premiums on policies?

Yes [] No [X]
- 39.2

If the response to 39.1 is yes, are the cryptocurrencies held directly or are they immediately converted to U.S. dollars?
39.21 Held directly Yes [] No []
39.22 Immediately converted to U.S. dollars Yes [] No []
- 39.3

If the response to 38.1 or 39.1 is yes, list all cryptocurrencies accepted for payments of premiums or that are held directly.

1	2	3
Name of Cryptocurrency	Immediately Converted to USD, Directly Held, or Both	Accepted for Payment of Premiums

OTHER

- 40.1

Amount of payments to trade associations, service organizations and statistical or rating bureaus, if any?

\$ 13,651
- 40.2

List the name of the organization and the amount paid if any such payment represented 25% or more of the total payments to trade associations, service organizations and statistical or rating bureaus during the period covered by this statement.

1	2
Name	Amount Paid
American Council of Life Insurers (ACLI) .....	.....4,522
US Chamber of Commerce .....	.....3,220
.....
- 41.1

Amount of payments for legal expenses, if any?

\$ 17,615
- 41.2

List the name of the firm and the amount paid if any such payment represented 25% or more of the total payments for legal expenses during the period covered by this statement.

1	2
Name	Amount Paid
Jones Day .....	.....4,633
.....
- 42.1

Amount of payments for expenditures in connection with matters before legislative bodies, officers or departments of government, if any?

\$5,841
- 42.2

List the name of the firm and the amount paid if any such payment represented 25% or more of the total payment expenditures in connection with matters before legislative bodies, officers, or departments of government during the period covered by this statement.

1	2
Name	Amount Paid
.....

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

GENERAL INTERROGATORIES

PART 2 - LIFE, ACCIDENT AND HEALTH COMPANIES/FRATERNAL BENEFIT SOCIETIES INTERROGATORIES

Life, Accident and Health Companies/Fraternal Benefit Societies:

1.1 Does the reporting entity have any direct Medicare Supplement Insurance in force? Yes [] No [X]

1.2 If yes, indicate premium earned on U.S. business only\$

1.3 What portion of Item (1.2) is not reported on the Medicare Supplement Insurance Experience Exhibit?\$

1.31 Reason for excluding:
.....

1.4 Indicate amount of earned premium attributable to Canadian and/or Other Alien not included in Item (1.2) above.\$

1.5 Indicate total incurred claims on all Medicare Supplement insurance.\$

1.6 Individual policies:

Most current three years:

1.61 Total premium earned\$

1.62 Total incurred claims\$

1.63 Number of covered lives

All years prior to most current three years

1.64 Total premium earned\$

1.65 Total incurred claims\$

1.66 Number of covered lives

1.7 Group policies:

Most current three years:

1.71 Total premium earned\$

1.72 Total incurred claims\$

1.73 Number of covered lives

All years prior to most current three years

1.74 Total premium earned\$

1.75 Total incurred claims\$

1.76 Number of covered lives

2. Health Test:

	1 Current Year	2 Prior Year
2.1 Premium Numerator		
2.2 Premium Denominator	(8,537,471)	976,115
2.3 Premium Ratio (2.1/2.2)	0.000	0.000
2.4 Reserve Numerator		
2.5 Reserve Denominator	148,565,573	149,621,787
2.6 Reserve Ratio (2.4/2.5)	0.000	0.000

3.1 Does this reporting entity have Separate Accounts? Yes [X] No []

3.2 If yes, has a Separate Accounts Statement been filed with this Department? Yes [X] No [] N/A []

3.3 What portion of capital and surplus funds of the reporting entity covered by assets in the Separate Accounts statement, is not currently distributable from the Separate Accounts to the general account for use by the general account?\$ 284,850

3.4 State the authority under which Separate Accounts are maintained:
Connecticut General Statutes, Section 38a-433 and 38a-459

3.5 Was any of the reporting entity's Separate Accounts business reinsured as of December 31? Yes [X] No []

3.6 Has the reporting entity assumed by reinsurance any Separate Accounts business as of December 31? Yes [] No [X]

3.7 If the reporting entity has assumed Separate Accounts business, how much, if any, reinsurance assumed receivable for reinsurance of Separate Accounts reserve expense allowances is included as a negative amount in the liability for "Transfers to Separate Accounts due or accrued (net)"?\$

4. For reporting entities having sold annuities to another insurer where the insurer purchasing the annuities has obtained a release of liability from the claimant (payee) as the result of the purchase of an annuity from the reporting entity only:

4.1 Amount of loss reserves established by these annuities during the current year:\$

4.2 List the name and location of the insurance company purchasing the annuities and the statement value on the purchase date of the annuities.

1	2
P&C Insurance Company And Location	Statement Value on Purchase Date of Annuities (i.e., Present Value)

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

GENERAL INTERROGATORIES

PART 2 - LIFE, ACCIDENT AND HEALTH COMPANIES/FRATERNAL BENEFIT SOCIETIES INTERROGATORIES

- 5.1 Do you act as a custodian for health savings accounts? Yes [] No [X]
- 5.2 If yes, please provide the amount of custodial funds held as of the reporting date.\$
- 5.3 Do you act as an administrator for health savings accounts? Yes [] No [X]
- 5.4 If yes, please provide the balance of funds administered as of the reporting date.\$
- 6.1 Are any of the captive affiliates reported on Schedule S, Part 3, authorized reinsurers? Yes [] No [X] N/A []
- 6.2 If the answer to 6.1 is yes, please provide the following:

1 Company Name	2 NAIC Company Code	3 Domiciliary Jurisdiction	4 Reserve Credit	Assets Supporting Reserve Credit		
				5 Letters of Credit	6 Trust Agreements	7 Other
.....

7. Provide the following for individual ordinary life insurance* policies (U.S. business only) for the current year (prior to reinsurance assumed or ceded):
- 7.1 Direct Premium Written\$25,696,575
- 7.2 Total Incurred Claims\$34,643,976
- 7.3 Number of Covered Lives143

*Ordinary Life Insurance Includes
Term (whether full underwriting,limited underwriting,jet issue,"short form app")
Whole Life (whether full underwriting,limited underwriting,jet issue,"short form app")
Variable Life (with or without secondary gurantee)
Universal Life (with or without secondary gurantee)
Variable Universal Life (with or without secondary gurantee)

8. Is the reporting entity licensed or chartered, registered, qualified, eligible or writing business in at least two states? Yes [X] No []
- 8.1 If no, does the reporting entity assume reinsurance business that covers risks residing in at least one state other than the state of domicile of the reporting entity? Yes [] No []

Life, Accident and Health Companies Only:

- 9.1 Are personnel or facilities of this reporting entity used by another entity or entities or are personnel or facilities of another entity or entities used by this reporting entity (except for activities such as administration of jointly underwritten group contracts and joint mortality or morbidity studies)? Yes [X] No []
- 9.2 Net reimbursement of such expenses between reporting entities:
- 9.21 Paid\$3,386,716
- 9.22 Received.....\$
- 10.1 Does the reporting entity write any guaranteed interest contracts? Yes [] No [X]
- 10.2 If yes, what amount pertaining to these lines is included in:
- 10.21 Page 3, Line 1\$
- 10.22 Page 4, Line 1\$
11. For stock reporting entities only:
- 11.1 Total amount paid in by stockholders as surplus funds since organization of the reporting entity:\$.....
12. Total dividends paid stockholders since organization of the reporting entity:
- 12.11 Cash\$
- 12.12 Stock\$
- 13.1 Does the reporting entity reinsure any Workers' Compensation Carve-Out business defined as: Yes [] No [X]
Reinsurance (including retrocessional reinsurance) assumed by life and health insurers of medical, wage loss and death
benefits of the occupational illness and accident exposures, but not the employers liability exposures, of business originally
written as workers' compensation insurance.
- 13.2 If yes, has the reporting entity completed the Workers' Compensation Carve-Out Supplement to the Annual Statement? Yes [] No []
- 13.3 If 13.1 is yes, the amounts of earned premiums and claims incurred in this statement are:
- | | 1
Reinsurance
Assumed | 2
Reinsurance
Ceded | 3
Net
Retained |
|---|-----------------------------|---------------------------|----------------------|
| 13.31 Earned premium | | | |
| 13.32 Paid claims | | | |
| 13.33 Claim liability and reserve (beginning of year) | | | |
| 13.34 Claim liability and reserve (end of year) | | | |
| 13.35 Incurred claims | | | |

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

GENERAL INTERROGATORIES

PART 2 - LIFE, ACCIDENT AND HEALTH COMPANIES/FRATERNAL BENEFIT SOCIETIES INTERROGATORIES

13.4 If reinsurance assumed included amounts with attachment points below \$1,000,000, the distribution of the amounts reported in Lines 13.31 and 13.34 for Column (1) are:

	Attachment Point	1 Earned Premium	2 Claim Liability and Reserve
13.41	<\$25,000	.....	.....
13.42	\$25,000 - 99,999	.....	.....
13.43	\$100,000 - 249,999	.....	.....
13.44	\$250,000 - 999,999	.....	.....
13.45	\$1,000,000 or more	.....	.....

13.5 What portion of earned premium reported in 13.31, Column 1 was assumed from pools?\$

Fraternal Benefit Societies Only:

14. Is the reporting entity organized and conducted on the lodge system, with ritualistic form of work and representative form of government? Yes [] No []

15. How often are meetings of the subordinate branches required to be held?
.....

16. How are the subordinate branches represented in the supreme or governing body?
.....

17. What is the basis of representation in the governing body?
.....

18.1 How often are regular meetings of the governing body held?
.....

18.2 When was the last regular meeting of the governing body held?

18.3 When and where will the next regular or special meeting of the governing body be held?
.....

18.4 How many members of the governing body attended the last regular meeting?
.....

18.5 How many of the same were delegates of the subordinate branches?
.....

19. How are the expenses of the governing body defrayed?
.....

20. When and by whom are the officers and directors elected?
.....

21. What are the qualifications for membership?
.....

22. What are the limiting ages for admission?
.....

23. What is the minimum and maximum insurance that may be issued on any one life?
.....

24. Is a medical examination required before issuing benefit certificates to applicants? Yes [] No []

25. Are applicants admitted to membership without filing an application with and becoming a member of a local branch by ballot and initiation? Yes [] No []

26.1 Are notices of the payments required sent to the members? Yes [] No [] N/A []

26.2 If yes, do the notices state the purpose for which the money is to be used? Yes [] No []

27. What proportion of first and subsequent year's payments may be used for management expenses?
27.11 First Year %
27.12 Subsequent Years %

28.1 Is any part of the mortuary, disability, emergency or reserve fund, or the accretions from or payments for the same, used for expenses? Yes [] No []

28.2 If so, what amount and for what purpose? \$
.....

29.1 Does the reporting entity pay an old age disability benefit? Yes [] No []

29.2 If yes, at what age does the benefit commence?
.....

30.1 Has the constitution or have the laws of the reporting entity been amended during the year? Yes [] No []

30.2 If yes, when?
.....

31. Have you filed with this Department all forms of benefit certificates issued, a copy of the constitution and all of the laws, rules and regulations in force at the present time? Yes [] No []

32.1 State whether all or a portion of the regular insurance contributions were waived during the current year under premium-paying certificates on account of meeting attained age or membership requirements? Yes [] No []

32.2 If so, was an additional reserve included in Exhibit 5? Yes [] No [] N/A []

32.3 If yes, explain
.....

33.1 Has the reporting entity reinsured, amalgamated with, or absorbed any company, order, society, or association during the year? Yes [] No []

33.2 If yes, was there any contract agreement, or understanding, written or oral, expressed or implied, by means of which any officer, director, trustee, or any other person, or firm, corporation, society or association, received or is to receive any fee, commission, emolument, or compensation of any nature whatsoever in connection with, on an account of such reinsurance, amalgamation, absorption, or transfer of membership or funds? Yes [] No [] N/A []

34. Has any present or former officer, director, trustee, incorporator, or any other persons, or any firm, corporation, society or association, any claims of any nature whatsoever against this reporting entity, which is not included in the liabilities on Page 3 of this statement? Yes [] No []

35.1 Does the reporting entity have outstanding assessments in the form of liens against policy benefits that have increased surplus? Yes [] No []

35.2 If yes, what is the date of the original lien and the outstanding balance of the liens that remain in surplus?

Date	Outstanding Lien Amount
.....
.....

FIVE-YEAR HISTORICAL DATA

Show amounts in whole dollars only, no cents; show percentages to one decimal place, i.e. 17.6.
\$000 omitted for amounts of life insurance

	1 2023	2 2022	3 2021	4 2020	5 2019
Life Insurance in Force (Exhibit of Life Insurance)					
1. Ordinary - whole life and endowment (Line 34, Col. 4)	8,151,559	8,293,657	8,785,414	8,935,990	9,097,214
2. Ordinary - term (Line 21, Col. 4, less Line 34, Col. 4)	3,159	2,668	3,135	2,579	2,909
3. Credit life (Line 21, Col. 6)					
4. Group, excluding FEGLI/SGLI (Line 21, Col. 9 less Lines 43 & 44, Col. 4)	2,180,636	2,201,370	2,213,005	2,230,467	2,233,751
5. Industrial (Line 21, Col. 2)					
6. FEGLI/SGLI (Lines 43 & 44, Col. 4)					
7. Total (Line 21, Col. 10)	10,335,354	10,497,695	11,001,554	11,169,036	11,333,874
7.1 Total in force for which VM-20 deterministic/stochastic reserves are calculated					
New Business Issued (Exhibit of Life Insurance)					
8. Ordinary - whole life and endowment (Line 34, Col. 2)		2,785	1,311	2,034	620
9. Ordinary - term (Line 2, Col. 4, less Line 34, Col. 2)					
10. Credit life (Line 2, Col. 6)					
11. Group (Line 2, Col. 9)					
12. Industrial (Line 2, Col. 2)					
13. Total (Line 2, Col. 10)		2,785	1,311	2,034	620
Premium Income - Lines of Business (Exhibit 1 - Part 1)					
14. Individual life (Line 20.4, Col. 2)	(8,542,271)	971,315	11,387,237	(4,358,198)	2,920,422
15. Group life (Line 20.4, Col. 3)					
16. Individual annuities (Line 20.4, Col. 4)	4,800	4,800	16,000	19,952	21,800
17. Group annuities (Line 20.4, Col. 5)					
18. Accident & Health (Line 20.4, Col. 6)					
19. Other lines of business (Line 20.4, Col. 8)					
20. Total	(8,537,471)	976,115	11,403,237	(4,338,246)	2,942,222
Balance Sheet (Pages 2 & 3)					
21. Total admitted assets excluding Separate Accounts business (Page 2, Line 26, Col. 3)	437,131,691	452,983,795	488,015,749	493,287,942	499,531,297
22. Total liabilities excluding Separate Accounts business (Page 3, Line 26)	204,407,791	200,840,820	222,586,158	218,778,416	206,076,975
23. Aggregate life reserves (Page 3, Line 1)	141,691,572	137,777,901	143,285,875	143,124,981	145,926,548
23.1 Excess VM-20 deterministic/stochastic reserve over NPR related to Line 7.1					
24. Aggregate A & H reserves (Page 3, Line 2)					
25. Deposit-type contract funds (Page 3, Line 3)	11,090,594	12,617,802	15,980,530	13,771,784	16,736,633
26. Asset valuation reserve (Page 3, Line 24.01)	6,462,012	6,881,096	6,056,250	7,192,889	6,285,196
27. Capital (Page 3, Lines 29 and 30)	2,500,200	2,500,200	2,500,200	2,500,200	2,500,200
28. Surplus (Page 3, Line 37)	230,223,700	249,642,774	262,929,391	272,009,326	290,954,122
Cash Flow (Page 5)					
29. Net Cash from Operations (Line 11)	23,775,192	14,812,302	17,215,650	8,171,535	7,489,663
Risk-Based Capital Analysis					
30. Total adjusted capital	239,185,912	259,024,070	271,485,841	281,702,415	299,739,518
31. Authorized control level risk - based capital	2,466,465	2,392,605	2,975,241	3,311,384	3,041,545
Percentage Distribution of Cash, Cash Equivalents and Invested Assets (Page 2, Col. 3) (Line No. /Page 2, Line 12, Col. 3) x 100.0					
32. Bonds (Line 1)	60.3	50.6	50.6	55.1	65.8
33. Stocks (Lines 2.1 and 2.2)	0.0	0.0	0.0		
34. Mortgage loans on real estate(Lines 3.1 and 3.2)	0.3	0.4	0.4	0.5	0.5
35. Real estate (Lines 4.1, 4.2 and 4.3)					
36. Cash, cash equivalents and short-term investments (Line 5)	16.2	26.6	28.0	23.4	13.0
37. Contract loans (Line 6)	23.2	22.4	21.0	21.0	20.8
38. Derivatives (Page 2, Line 7)					
39. Other invested assets (Line 8)	0.0	0.0			
40. Receivables for securities (Line 9)					
41. Securities lending reinvested collateral assets (Line 10)					
42. Aggregate write-ins for invested assets (Line 11)					
43. Cash, cash equivalents and invested assets (Line 12)	100.0	100.0	100.0	100.0	100.0
Investments in Parent, Subsidiaries and Affiliates					
44. Affiliated bonds (Schedule D Summary, Line 12, Col. 1)	995,172	993,621	992,122		
45. Affiliated preferred stocks (Schedule D Summary, Line 18, Col. 1)					
46. Affiliated common stocks (Schedule D Summary Line 24, Col. 1),					
47. Affiliated short-term investments (subtotal included in Schedule DA Verification, Col. 5, Line 10)					
48. Affiliated mortgage loans on real estate					
49. All other affiliated					
50. Total of above Lines 44 to 49	995,172	993,621	992,122		
51. Total Investment in Parent included in Lines 44 to 49 above					

FIVE-YEAR HISTORICAL DATA

(Continued)

	1 2023	2 2022	3 2021	4 2020	5 2019
Total Nonadmitted and Admitted Assets					
52. Total nonadmitted assets (Page 2, Line 28, Col. 2).....	687,990	1,182,085	2,219,132	2,236,207	2,321,196
53. Total admitted assets (Page 2, Line 28, Col. 3)	5,109,592,566	5,022,867,608	5,462,847,319	5,352,119,790	5,117,785,433
Investment Data					
54. Net investment income (Exhibit of Net Investment Income)	19,105,899	15,112,282	12,821,868	15,179,564	18,286,919
55. Realized capital gains (losses) (Page 4, Line 34, Column 1)	(701,549)	(14,780)	(51,270)	(133,507)	(45,946)
56. Unrealized capital gains (losses) (Page 4, Line 38, Column 1)	(311,788)	191,410	19,696	(140,180)	20,039
57. Total of above Lines 54, 55 and 56	18,092,562	15,288,912	12,790,294	14,905,876	18,261,012
Benefits and Reserve Increases (Page 6)					
58. Total contract/certificate benefits - life (Lines 10, 11, 12, 13, 14 and 15, Col. 1 minus Lines 10, 11,12, 13, 14 and 15, Cols. 6, 7 and 8)	58,394,821	63,283,738	82,220,794	44,959,382	48,784,770
59. Total contract/certificate benefits - A & H (Lines 13 & 14, Col. 6)					
60. Increase in life reserves - other than group and annuities (Line 19, Col. 2)	3,400,562	(5,391,742)	(101,502)	(2,283,459)	2,559,499
61. Increase in A & H reserves (Line 19, Col. 6)					
62. Dividends to policyholders and refunds to members (Line 30, Col. 1)					
Operating Percentages					
63. Insurance expense percent (Page 6, Col. 1, Lines 21, 22 & 23, less Line 6)/(Page 6, Col. 1, Line 1 plus Exhibit 7, Col. 2, Line 2) x 100.0	5.6	(191.3)	(5.8)	(8.4)	63.6
64. Lapse percent (ordinary only) [(Exhibit of Life Insurance, Col. 4, Lines 14 & 15) / 1/2 (Exhibit of Life Insurance, Col. 4, Lines 1 & 21)] x 100.0	1.9	1.8	1.9	2.0	3.4
65. A & H loss percent (Schedule H, Part 1, Lines 5 and 6, Col. 2)					
66. A & H cost containment percent (Schedule H, Pt. 1, Line 4, Col. 2)					
67. A & H expense percent excluding cost containment expenses (Schedule H, Pt. 1, Line 10, Col. 2)					
A & H Claim Reserve Adequacy					
68. Incurred losses on prior years' claims - comprehensive group health (Sch. H, Part 3, Line 3.1 Col. 3)			XXX	XXX	XXX
69. Prior years' claim liability and reserve - comprehensive group health (Sch. H, Part 3, Line 3.2 Col. 3)			XXX	XXX	XXX
70. Incurred losses on prior years' claims-health other than comprehensive group health (Sch. H, Part 3, Line 3.1 Col. 1 less Col. 3)			XXX	XXX	XXX
71. Prior years' claim liability and reserve-health other than comprehensive group health (Sch. H, Part 3, Line 3.2 Col. 1 less Col. 3)			XXX	XXX	XXX
Net Gains From Operations After Dividends to Policyholders, Refunds to Members, Federal Income Taxes and Before Realized Capital Gains or (Losses) by Lines of Business (Page 6.x, Line 33)					
72. Individual industrial life (Page 6.1, Col. 2)					
73. Individual whole life (Page 6.1, Col. 3)					
74. Individual term life (Page 6.1, Col. 4)					
75. Individual indexed life (Page 6.1, Col. 5)					
76. Individual universal life (Page 6.1, Col. 6)					
77. Individual universal life with secondary guarantees (Page 6.1, Col. 7)					
78. Individual variable life (Page 6.1, Col. 8)	77,813	(209,547)			
79. Individual variable universal life (Page 6.1, Col. 9)	12,101,106	13,993,730			
80. Individual credit life (Page 6.1, Col. 10)					
81. Individual other life (Page 6.1, Col. 11)					
82. Individual YRT mortality risk only (Page 6.1, Col. 12)					
83. Group whole life (Page 6.2, Col. 2)					
84. Group term life (Page 6.2, Col. 3)					
85. Group universal life (Page 6.2, Col. 4)					
86. Group variable life (Page 6.2, Col. 5)					
87. Group variable universal life (Page 6.2, Col. 6)	(3,894,623)	239,335			
88. Group credit life (Page 6.2, Col. 7)					
89. Group other life (Page 6.2, Col. 8)					
90. Group YRT mortality risk only (Page 6.2, Col. 9)					
91. Individual deferred fixed annuities (Page 6.3, Col. 2)					
92. Individual deferred indexed annuities (Page 6.3, Col. 3)					
93. Individual deferred variable annuities with guarantees (Page 6.3, Col. 4)	(143,978)	436,723			
94. Individual deferred variable annuities without guarantees (Page 6.3, Col. 5)					
95. Individual life contingent payout (immediate and annuitization) (Page 6.3, Col. 6)	(199,021)	524,791			
96. Individual other annuities (Page 6.3, Col. 7)	(74,728)	(100,292)			
97. Group deferred fixed annuities (Page 6.4, Col. 2)					
98. Group deferred indexed annuities (Page 6.4, Col. 3)					
99. Group deferred variable annuities with guarantees (Page 6.4, Col. 4)					
100. Group deferred variable annuities without guarantees (Page 6.4, Col. 5)					
101. Group life contingent payout (immediate and annuitization) (Page 6.4, Col. 6)					
102. Group other annuities (Page 6.4, Col. 7)					
103. A & H-comprehensive individual (Page 6.5, Col. 2)					
104. A & H-comprehensive group (Page 6.5, Col. 3)					
105. A & H-Medicare supplement (Page 6.5, Col. 4)					
106. A & H-vision only (Page 6.5, Col. 5)					
107. A & H-dental only (Page 6.5, Col. 6)					
108. A & H-Federal employees health benefits plan (Page 6.5, Col. 7)					
109. A & H-Title XVIII Medicare (Page 6.5, Col. 8)					
110. A & H-Title XIX Medicaid (Page 6.5, Col. 9)					
111. A & H-credit (Page 6.5, Col. 10)					
112. A & H-disability income (Page 6.5, Col. 11)					
113. A & H-long-term care (Page 6.5, Col. 12)					
114. A & H-other (Page 6.5, Col. 13)					
115. Aggregate of all other lines of business (Page 6, Col. 8)					
116. Fraternal (Page 6, Col. 7)					
117. Total (Page 6, Col. 1)	7,866,568	14,884,739			

NOTE: If a party to a merger, have the two most recent years of this exhibit been restated due to a merger in compliance with the disclosure requirements of SSAP No. 3, Accounting Changes and Correction of Errors? Yes [] No []

If no, please explain: _____



ANNUAL STATEMENT FOR THE YEAR 2023 OF THE MML Bay State Life Insurance Company
LIFE INSURANCE (STATE PAGE)^(b)

NAIC Group Code 0435 BUSINESS IN THE STATE OF Grand Total DURING THE YEAR 2023 NAIC Company Code 70416

Line of Business	1 Premiums and Annuities Considerations	2 Other Considerations	Dividends to Policyholders/Refunds to Members					Claims and Benefits Paid				
			3 Paid in Cash or Left on Deposit	4 Applied to Pay Renewal Premiums	5 Applied to Provide Paid-Up Additions or Shorten the Endowment or Premium-Paying Period	6 Other	7 Total (Col. 3+4+5+6)	8 Death and Annuity Benefits	9 Matured Endowments	10 Surrender Values and Withdrawals for Life Contracts	11 All Other Benefits	12 Total (Sum Columns 8 through 11)
Individual Life												
1. Industrial												
2. Whole												
3. Term												
4. Indexed												
5. Universal												
6. Universal with secondary guarantees												
7. Variable	928,067							113,347		290,373	6,328	410,048
8. Variable universal	24,400,824							92,465,121		33,455,283	398,147	126,318,550
9. Credit												
10. Other	(f)											
11. Total Individual Life	25,328,891							92,578,468		33,745,655	404,475	126,728,598
Group Life												
12. Whole												
13. Term												
14. Universal												
15. Variable												
16. Variable universal								15,321,170				15,321,170
17. Credit												
18. Other	(f)											
19. Total Group Life								15,321,170				15,321,170
Individual Annuities												
20. Fixed												
21. Indexed												
22. Variable with guarantees	4,800							502,292		2,810,073		3,312,365
23. Variable without guarantees												
24. Life contingent payout												
25. Other	(f)											
26. Total Individual Annuities	4,800							502,292		2,810,073		3,312,365
Group Annuities												
27. Fixed												
28. Indexed												
29. Variable with guarantees												
30. Variable without guarantees												
31. Life contingent payout												
32. Other	(f)											
33. Total Group Annuities												
Accident and Health												
34. Comprehensive individual	(d)							XXX	XXX	XXX		
35. Comprehensive group	(d)							XXX	XXX	XXX		
36. Medicare Supplement	(d)							XXX	XXX	XXX		
37. Vision only	(d)							XXX	XXX	XXX		
38. Dental only	(d)							XXX	XXX	XXX		
39. Federal Employees Health Benefits Plan	(d)							XXX	XXX	XXX		
40. Title XVIII Medicare	(d) (e)							XXX	XXX	XXX		
41. Title XIX Medicaid	(d)							XXX	XXX	XXX		
42. Credit A&H								XXX	XXX	XXX		
43. Disability income	(d)							XXX	XXX	XXX		
44. Long-term care	(d)							XXX	XXX	XXX		
45. Other health	(d)							XXX	XXX	XXX		
46. Total Accident and Health								XXX	XXX	XXX		
47. Total	25,333,691 (c)							108,401,930		36,555,728	404,475	145,362,133

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

LIFE INSURANCE (STATE PAGE) (Continued)^(b)

NAIC Group Code		0435		BUSINESS IN THE STATE OF		Grand Total		DURING THE YEAR		2023		NAIC Company Code		70416			
Line of Business		13 Incurred During Current Year	Direct Death Benefits, Matured Endowments Incurred and Annuity Benefits								22 Unpaid December 31, Current Year	Issued During Year		Other Changes to In Force (Net)		In Force December 31, Current Year (b)	
			Totals Paid		Reduction by Compromise		Amount Rejected		Total Settled During Current Year			23 Number of Pols/ Certs	24 Amount	25 Number of Pols/ Certs	26 Amount	27 Number of Pols/ Certs	28 Amount
			14 Number of Pols/ Certs	15 Amount	16 Number of Pols/ Certs	17 Amount	18 Number of Pols/ Certs	19 Amount	20 Number of Pols/ Certs	21 Amount							
Individual Life																	
1. Industrial																	
2. Whole																	
3. Term																	
4. Indexed																	
5. Universal																	
6. Universal with secondary guarantees																	
7. Variable		152,388	1	113,347					1	113,347	39,041						
8. Variable universal		87,827,506	253	92,465,121					253	92,465,121	14,610,134						
9. Credit																	
10. Other		(f)											24,571	8,154,718,104	24,571	8,154,718,104	
11. Total Individual Life		87,979,894	254	92,578,468					254	92,578,468	14,649,175		24,571	8,154,718,104	24,571	8,154,718,104	
Group Life																	
12. Whole																	
13. Term																	
14. Universal																	
15. Variable																	
16. Variable universal		22,782,729	24	15,321,170					24	15,321,170	10,257,454						
17. Credit																	
18. Other		(f)											5	2,180,636,341	5	2,180,636,341 (a)	
19. Total Group Life		22,782,729	24	15,321,170					24	15,321,170	10,257,454		5	2,180,636,341	5	2,180,636,341	
Individual Annuities																	
20. Fixed																	
21. Indexed																	
22. Variable with guarantees		502,292															
23. Variable without guarantees																	
24. Life contingent payout																	
25. Other		(f)											495	44,783,579	495	44,783,579	
26. Total Individual Annuities		502,292											495	44,783,579	495	44,783,579	
Group Annuities																	
27. Fixed																	
28. Indexed																	
29. Variable with guarantees																	
30. Variable without guarantees																	
31. Life contingent payout																	
32. Other		(f)															
33. Total Group Annuities																	
Accident and Health																	
34. Comprehensive individual		(d)	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX						
35. Comprehensive group		(d)	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX						
36. Medicare Supplement		(d)	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX						
37. Vision only		(d)	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX						
38. Dental only		(d)	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX						
39. Federal Employees Health Benefits Plan		(d)	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX						
40. Title XVIII Medicare		(d)	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX						
41. Title XIX Medicaid		(d)	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX						
42. Credit A&H			XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX						
43. Disability income		(d)	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX						
44. Long-term care		(d)	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX						
45. Other health		(d)	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX						
46. Total Accident and Health			XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX						
47. TOTAL			111,264,915	278	107,899,638				278	107,899,638	24,906,628			25,071	10,380,138,024	25,071	10,380,138,024

(a) Includes Group Credit Life Insurance Loans less than or equal to 60 months at issue, prior year \$ _____, current year \$ _____ Loans greater than 60 months at issue BUT NOT GREATER THAN 120 MONTHS prior year \$ _____, current year \$ _____

(b) Corporate Owned Life Insurance/BOLI: 1) Number of policies: _____ 5,084 2) covering number of lives: _____ 8,071 3) face amount \$ _____ 6,765,412,309

(c) Deposit-Type Contract Considerations NOT included in Total Premiums and Annuities Considerations: Individual: \$ _____ Group: \$ _____ Total: \$ _____

(d) For health business on indicated lines report: Number of persons insured under PPO managed care products _____ and number of persons insured under indemnity only products _____

(e) For health premiums written: amount of Medicare Title XVIII exempt from state taxes or fees \$ _____

(f) Certain Separate Account products are included in "Other" product categories in the table(s) above:

1. Individual Life - Other includes the following amounts related to Separate Account policies:

Column 1) \$ _____ Column 7) \$ _____ Column 12) \$ _____

2. Group Life - Other includes the following amounts related to Separate Account policies:

Column 1) \$ _____ Column 7) \$ _____ Column 12) \$ _____

3. Individual Annuities - Other includes the following amounts related to Separate Account policies:

Column 1) \$ _____ Column 7) \$ _____ Column 12) \$ _____

4. Group Annuities - Other includes the following amounts related to Separate Account policies:

Column 1) \$ _____ Column 7) \$ _____ Column 12) \$ _____

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

EXHIBIT OF LIFE INSURANCE

(\$000 Omitted for Amounts of Life Insurance)

	Industrial		Ordinary		Credit Life (Group and Individual)		Group			10
	1	2	3	4	5	6	Number of		9	Total Amount of Insurance
	Number of Policies	Amount of Insurance	Number of Policies	Amount of Insurance	Number of Individual Policies and Group Certificates	Amount of Insurance	7 Policies	8 Certificates	Amount of Insurance	
1. In force end of prior year			25,639	8,296,325			5	3,025	2,201,370	10,497,695
2. Issued during year										
3. Reinsurance assumed										
4. Revived during year			4	598						598
5. Increased during year (net)				94,279					2,061	96,340
6. Subtotals, Lines 2 to 5			4	94,877					2,061	96,938
7. Additions by dividends during year	XXX		XXX		XXX		XXX	XXX		
8. Aggregate write-ins for increases										
9. Totals (Lines 1 and 6 to 8)			25,643	8,391,201			5	3,025	2,203,431	10,594,632
Deductions during year:										
10. Death			227	80,017			XXX	33	22,795	102,812
11. Maturity							XXX			
12. Disability							XXX			
13. Expiry			1	23						23
14. Surrender			580	107,980						107,980
15. Lapse			223	47,123						47,123
16. Conversion							XXX	XXX	XXX	
17. Decreased (net)			41	1,340						1,340
18. Reinsurance										
19. Aggregate write-ins for decreases										
20. Totals (Lines 10 to 19)			1,072	236,483				33	22,795	259,278
21. In force end of year (b) (Line 9 minus Line 20)			24,571	8,154,718			5	2,992	2,180,636	10,335,354
22. Reinsurance ceded end of year	XXX		XXX	3,490,542	XXX		XXX	XXX	2,180,636	5,671,178
23. Line 21 minus Line 22	XXX		XXX	4,664,176	XXX	(a)	XXX	XXX		4,664,176
DETAILS OF WRITE-INS										
0801.										
0802.										
0803.										
0898. Summary of remaining write-ins for Line 8 from overflow page.										
0899. TOTALS (Lines 0801 thru 0803 plus 0898) (Line 8 above)										
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)										

Life, Accident and Health Companies Only:

(a) Group \$; Individual \$

Fraternal Benefit Societies Only:

(b) Paid-up insurance included in the final totals of Line 21 (including additions to certificates) number of certificates , Amount \$

Additional accidental death benefits included in life certificates were in amount \$, Does the society collect any contributions from members for general expenses of the society under fully paid-up certificates? Yes [] No []

If not, how are such expenses met?

.....

EXHIBIT OF LIFE INSURANCE

(\$000 Omitted for Amounts of Life Insurance) (Continued)
ADDITIONAL INFORMATION ON INSURANCE IN FORCE END OF YEAR

	Industrial		Ordinary	
	1 Number of Policies	2 Amount of Insurance	3 Number of Policies	4 Amount of Insurance
24. Additions by dividends	XXX.....	.....	XXX.....	.....
25. Other paid-up insurance .....	.....	.....	4.....	9,125.....
26. Debit ordinary insurance	XXX.....	XXX.....	.....	.....

ADDITIONAL INFORMATION ON ORDINARY INSURANCE

Term Insurance Excluding Extended Term Insurance	Issued During Year (Included in Line 2)		In Force End of Year (Included in Line 21)	
	1 Number of Policies	2 Amount of Insurance	3 Number of Policies	4 Amount of Insurance
27. Term policies - decreasing .....	.....	.....	.....	.....
28. Term policies - other .....	.....	.....	.....	.....
29. Other term insurance - decreasing	XXX.....	.....	XXX.....	.....
30. Other term insurance	XXX.....	.....	XXX.....	90.....
31. Totals (Lines 27 to 30) .....	.....	.....	.....	90.....
Reconciliation to Lines 2 and 21:				
32. Term additions	XXX.....	.....	XXX.....	.....
33. Totals, extended term insurance	XXX.....	XXX.....	44.....	3,069.....
34. Totals, whole life and endowment .....	.....	.....	24,527.....	8,151,559.....
35. Totals (Lines 31 to 34) .....	.....	.....	24,571.....	8,154,718.....

CLASSIFICATION OF AMOUNT OF INSURANCE BY PARTICIPATING STATUS

	Issued During Year (Included in Line 2)		In Force End of Year (Included in Line 21)	
	1 Non-Participating	2 Participating	3 Non-Participating	4 Participating
36. Industrial
37. Ordinary	8,154,718.....	.....
38. Credit Life (Group and Individual)
39. Group	2,180,636.....	.....
40. Totals (Lines 36 to 39)	10,335,354.....	.....

ADDITIONAL INFORMATION ON CREDIT LIFE AND GROUP INSURANCE

	Credit Life		Group	
	1 Number of Individual Policies or Group Certificates	2 Amount of Insurance	3 Number of Certificates	4 Amount of Insurance
41. Amount of insurance included in Line 2 ceded to other companies	XXX.....	.....	XXX.....	.....
42. Number in force end of year if the number under insured groups is limited on a pro-rata basis	XXX.....
43. Federal Employees' Group Life Insurance included in Line 21
44. Servicemen's Group Life Insurance included in Line 21
45. Group Permanent Insurance included in Line 21

ADDITIONAL ACCIDENTAL DEATH BENEFITS

46. Amount of additional accidental death benefits in force end of year under ordinary policies	36,827.....
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BASIS OF CALCULATION OF ORDINARY TERM INSURANCE

47. State basis of calculation of (47.1) decreasing term insurance contained in Family Income Mortgage Protection, etc., policies and riders and of (47.2) term insurance on wife and children under Family, Parent and Child, etc., policies and riders included in Line 2
47.1 .....	.....
47.2 .....	.....

POLICIES WITH DISABILITY PROVISIONS

Disability Provisions	Industrial		Ordinary		Credit		Group	
	1 Number of Policies	2 Amount of Insurance	3 Number of Policies	4 Amount of Insurance	5 Number of Policies	6 Amount of Insurance	7 Number of Certificates	8 Amount of Insurance
48. Waiver of Premium	9,064.....	1,459,330.....	.....	.....	.....	.....
49. Disability Income
50. Extended Benefits	XXX.....	XXX.....	.....	.....	.....	.....
51. Other
52. Total	(a)	(a)	9,064.....	1,459,330.....	(a)	(a)	(a)	(a)

(a) See the Annual Audited Financial Reports section of the annual statement instructions

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

EXHIBIT OF NUMBER OF POLICIES, CONTRACTS, CERTIFICATES, INCOME PAYABLE AND ACCOUNT VALUES IN FORCE FOR SUPPLEMENTARY CONTRACTS, ANNUITIES, ACCIDENT & HEALTH AND OTHER POLICIES

SUPPLEMENTARY CONTRACTS				
	Ordinary		Group	
	1 Involving Life Contingencies	2 Not Involving Life Contingencies	3 Involving Life Contingencies	4 Not Involving Life Contingencies
1. In force end of prior year		97		
2. Issued during year		2		
3. Reinsurance assumed				
4. Increased during year (net)				
5. Total (Lines 1 to 4)		99		
Deductions during year:				
6. Decreased (net)		12		
7. Reinsurance ceded				
8. Totals (Lines 6 and 7)		12		
9. In force end of year (line 5 minus line 8)		87		
10. Amount on deposit		(a) 11,243,738		(a)
11. Income now payable		83		
12. Amount of income payable	(a)	(a) 344,518	(a)	(a)

ANNUITIES				
	Ordinary		Group	
	1 Immediate	2 Deferred	3 Contracts	4 Certificates
1. In force end of prior year		453		
2. Issued during year				
3. Reinsurance assumed				
4. Increased during year (net)				
5. Totals (Lines 1 to 4)		453		
Deductions during year:				
6. Decreased (net)		45		
7. Reinsurance ceded				
8. Totals (Lines 6 and 7)		45		
9. In force end of year (line 5 minus line 8)		408		
Income now payable:				
10. Amount of income payable	(a)	XXX	XXX	(a)
Deferred fully paid:				
11. Account balance	XXX	(a)	XXX	(a)
Deferred not fully paid:				
12. Account balance	XXX	(a) 32,413,963	XXX	(a)

ACCIDENT AND HEALTH INSURANCE						
	Group		Credit		Other	
	1 Certificates	2 Premiums in Force	3 Policies	4 Premiums in Force	5 Policies	6 Premiums in Force
1. In force end of prior year						
2. Issued during year						
3. Reinsurance assumed						
4. Increased during year (net)		XXX		XXX		XXX
5. Totals (Lines 1 to 4)		XXX		XXX		XXX
Deductions during year:						
6. Conversions		XXX	XXX	XXX	XXX	XXX
7. Decreased (net)		XXX		XXX		XXX
8. Reinsurance ceded		XXX				XXX
9. Totals (Lines 6 to 8)		XXX		XXX		XXX
10. In force end of year (line 5 minus line 9)		(a)		(a)		(a)

DEPOSIT FUNDS AND DIVIDEND ACCUMULATIONS		
	1	2
	Deposit Funds Contracts	Dividend Accumulations Contracts
1. In force end of prior year		
2. Issued during year		
3. Reinsurance assumed		
4. Increased during year (net)		
5. Totals (Lines 1 to 4)		
Deductions During Year:		
6. Decreased (net)		
7. Reinsurance ceded		
8. Totals (Lines 6 and 7)		
9. In force end of year (line 5 minus line 8)		
10. Amount of account balance	(a)	(a)

(a) See the Annual Audited Financial Reports section of the annual statement instructions.

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

FORM FOR CALCULATING THE INTEREST MAINTENANCE RESERVE

INTEREST MAINTENANCE RESERVE	
	1 Amount
1. Reserve as of December 31, Prior Year	832,918
2. Current year's realized pre-tax capital gains/(losses) of \$ (37,301) transferred into the reserve net of taxes of \$ (7,833)	(29,468)
3. Adjustment for current year's liability gains/(losses) released from the reserve	
4. Balance before reduction for amount transferred to Summary of Operations (Line 1 + Line 2 + Line 3)	803,450
5. Current year's amortization released to Summary of Operations (Amortization, Line 1, Column 4)	210,737
6. Reserve as of December 31, current year (Line 4 minus Line 5)	592,713

AMORTIZATION				
	1	2	3	4
Year of Amortization	Reserve as of December 31, Prior Year	Current Year's Realized Capital Gains/(Losses) Transferred into the Reserve Net of Taxes	Adjustment for Current Year's Liability Gains/(Losses) Released From the Reserve	Balance Before Reduction for Current Year's Amortization (Cols. 1 + 2 + 3)
1. 2023	219,232	(8,495)		210,737
2. 2024	164,074	(8,885)		155,189
3. 2025	103,521	(5,192)		98,329
4. 2026	59,091	(3,776)		55,315
5. 2027	47,444	(2,319)		45,125
6. 2028	45,852	(800)		45,051
7. 2029	38,713			38,713
8. 2030	34,528			34,528
9. 2031	33,337			33,337
10. 2032	29,437			29,437
11. 2033	24,074			24,074
12. 2034	18,223			18,223
13. 2035	11,234			11,234
14. 2036	3,994			3,994
15. 2037	426			426
16. 2038	59			59
17. 2039	(194)			(194)
18. 2040	(108)			(108)
19. 2041	(1)			(1)
20. 2042	(11)			(11)
21. 2043	(6)			(6)
22. 2044				
23. 2045				
24. 2046				
25. 2047				
26. 2048				
27. 2049				
28. 2050				
29. 2051				
30. 2052				
31. 2053 and Later				
32. Total (Lines 1 to 31)	832,918	(29,468)		803,450

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

ASSET VALUATION RESERVE

	Default Component			Equity Component			7
	1	2	3	4	5	6	
	Other Than Mortgage Loans	Mortgage Loans	Total (Cols. 1 + 2)	Common Stock	Real Estate and Other Invested Assets	Total (Cols. 4 + 5)	Total Amount (Cols. 3 + 6)
1. Reserve as of December 31, prior year	6,830,481	23,956	6,854,437	5,369	12,221	17,590	6,872,027
2. Realized capital gains/(losses) net of taxes - General Account	(701,225)		(701,225)				(701,225)
3. Realized capital gains/(losses) net of taxes - Separate Accounts	(53,644)		(53,644)				(53,644)
4. Unrealized capital gains/(losses) net of deferred taxes - General Account	(256,581)		(256,581)	264	(48,630)	(48,366)	(304,947)
5. Unrealized capital gains/(losses) net of deferred taxes - Separate Accounts							
6. Capital gains credited/(losses charged) to contract benefits, payments or reserves							
7. Basic contribution	1,250,019	2,480	1,252,498		1,015	1,015	1,253,513
8. Accumulated balances (Lines 1 through 5 - 6 + 7)	7,069,049	26,436	7,095,485	5,633	(35,394)	(29,761)	7,065,724
9. Maximum reserve	6,992,342	9,092	7,001,434	5,444	35,662	41,106	7,042,540
10. Reserve objective	3,901,421	5,786	3,907,207	5,444	32,212	37,656	3,944,863
11. 20% of (Line 10 - Line 8)	(633,526)	(4,130)	(637,656)	(38)	13,521	13,484	(624,172)
12. Balance before transfers (Lines 8 + 11)	6,435,523	22,306	6,457,829	5,595	(21,873)	(16,278)	6,441,551
13. Transfers				(2,873)	2,873		
14. Voluntary contribution							
15. Adjustment down to maximum/up to zero					20,461	20,461	20,461
16. Reserve as of December 31, current year (Lines 12 + 13 + 14 + 15)	6,435,523	22,306	6,457,829	2,722	1,461	4,183	6,462,012

ASSET VALUATION RESERVE

BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS

DEFAULT COMPONENT

Line Number	NAIC Designation	Description	1	2	3	4	Basic Contribution		Reserve Objective		Maximum Reserve		
			Book/Adjusted Carrying Value	Reclassify Related Party Encumbrances	Add Third Party Encumbrances	Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	5	6	7	8	9	10	
							Factor	Amount (Cols.4 x 5)	Factor	Amount (Cols. 4 x 7)	Factor	Amount (Cols. 4 x 9)	
LONG-TERM BONDS													
1.		Exempt Obligations	4,341,924	XXX	XXX	4,341,924	0.0000		0.0000		0.0000		
2.1	1	NAIC Designation Category 1.A	73,871,682	XXX	XXX	73,871,682	0.0002	14,774	0.0007	51,710	0.0013	96,033	
2.2	1	NAIC Designation Category 1.B	11,232,001	XXX	XXX	11,232,001	0.0004	4,493	0.0011	12,355	0.0023	25,834	
2.3	1	NAIC Designation Category 1.C	9,044,077	XXX	XXX	9,044,077	0.0006	5,426	0.0018	16,279	0.0035	31,654	
2.4	1	NAIC Designation Category 1.D	6,953,974	XXX	XXX	6,953,974	0.0007	4,868	0.0022	15,299	0.0044	30,597	
2.5	1	NAIC Designation Category 1.E	16,171,032	XXX	XXX	16,171,032	0.0009	14,554	0.0027	43,662	0.0055	88,941	
2.6	1	NAIC Designation Category 1.F	20,255,412	XXX	XXX	20,255,412	0.0011	22,281	0.0034	68,868	0.0068	137,737	
2.7	1	NAIC Designation Category 1.G	27,152,099	XXX	XXX	27,152,099	0.0014	38,013	0.0042	114,039	0.0085	230,793	
2.8		Subtotal NAIC 1 (2.1+2.2+2.3+2.4+2.5+2.6+2.7)	164,680,277	XXX	XXX	164,680,277	XXX	104,409	XXX	322,212	XXX	641,589	
3.1	2	NAIC Designation Category 2.A	34,764,179	XXX	XXX	34,764,179	0.0021	73,005	0.0063	219,014	0.0105	365,024	
3.2	2	NAIC Designation Category 2.B	31,137,082	XXX	XXX	31,137,082	0.0025	77,843	0.0076	236,642	0.0127	395,441	
3.3	2	NAIC Designation Category 2.C	10,741,080	XXX	XXX	10,741,080	0.0036	38,668	0.0108	116,004	0.0180	193,339	
3.4		Subtotal NAIC 2 (3.1+3.2+3.3)	76,642,341	XXX	XXX	76,642,341	XXX	189,515	XXX	571,660	XXX	953,804	
4.1	3	NAIC Designation Category 3.A	2,007,397	XXX	XXX	2,007,397	0.0069	13,851	0.0183	36,735	0.0262	52,594	
4.2	3	NAIC Designation Category 3.B		XXX	XXX		0.0099		0.0264		0.0377		
4.3	3	NAIC Designation Category 3.C	1,136,163	XXX	XXX	1,136,163	0.0131	14,884	0.0350	39,766	0.0500	56,808	
4.4		Subtotal NAIC 3 (4.1+4.2+4.3)	3,143,560	XXX	XXX	3,143,560	XXX	28,735	XXX	76,501	XXX	109,402	
5.1	4	NAIC Designation Category 4.A	701,243	XXX	XXX	701,243	0.0184	12,903	0.0430	30,153	0.0615	43,126	
5.2	4	NAIC Designation Category 4.B	5,818	XXX	XXX	5,818	0.0238	138	0.0555	323	0.0793	461	
5.3	4	NAIC Designation Category 4.C	86,564	XXX	XXX	86,564	0.0310	2,683	0.0724	6,267	0.1034	8,951	
5.4		Subtotal NAIC 4 (5.1+5.2+5.3)	793,625	XXX	XXX	793,625	XXX	15,725	XXX	36,744	XXX	52,539	
6.1	5	NAIC Designation Category 5.A	25,236	XXX	XXX	25,236	0.0472	1,191	0.0846	2,135	0.1410	3,558	
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)	25,236	XXX	XXX	25,236	XXX	1,191	XXX	2,135	XXX	3,558	
7.	6	NAIC 6	539,400	XXX	XXX	539,400	0.0000		0.2370	127,838	0.2370	127,838	
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)	250,166,363	XXX	XXX	250,166,363	XXX	339,575	XXX	1,137,090	XXX	1,888,730	
PREFERRED STOCKS													
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 Num- ber	NAIC Desig- nation	Description	1	2	3	4	Basic Contribution		Reserve Objective		Maximum Reserve	
			Book/Adjusted Carrying Value	Reclassify Related Party Encumbrances	Add Third Party Encumbrances	Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	5	6	7	8	9	10
							Factor	Amount (Cols.4 x 5)	Factor	Amount (Cols. 4 x 7)	Factor	Amount (Cols. 4 x 9)
SHORT-TERM BONDS												
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	2,963,408	XXX	XXX	2,963,408	0.0021	6,223	0.0063	18,669	0.0105	31,116
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)	2,963,408	XXX	XXX	2,963,408	XXX	6,223	XXX	18,669	XXX	31,116
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)	2,963,408	XXX	XXX	2,963,408	XXX	6,223	XXX	18,669	XXX	31,116
DERIVATIVE INSTRUMENTS												
26.		Exchange Traded		XXX	XXX		0.0005		0.0016		0.0033	
27.	1	Highest Quality		XXX	XXX		0.0005		0.0016		0.0033	
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		XXX	XXX		XXX		XXX		XXX	
34.		Total (Lines 9 + 17 + 25 + 33)	253,129,771	XXX	XXX	253,129,771	XXX	345,798	XXX	1,155,759	XXX	1,919,845

ASSET VALUATION RESERVE (Continued)

BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS

DEFAULT COMPONENT

Line Num- ber	NAIC Desig- nation	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	1,335,508		XXX	1,335,508	0.0003	401	0.0007	935	0.0011	1,469
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)	1,335,508		XXX	1,335,508	XXX	401	XXX	935	XXX	1,469
59.		Schedule DA Mortgages			XXX		0.0034		0.0114		0.0149	
60.		Total Mortgage Loans on Real Estate (Lines 58 + 59)	1,335,508		XXX	1,335,508	XXX	401	XXX	935	XXX	1,469

ASSET VALUATION RESERVE

BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS

EQUITY AND OTHER INVESTED ASSET COMPONENT

Line Number	NAIC Designation	Description	1	2	3	4	Basic Contribution		Reserve Objective		Maximum Reserve	
			Book/Adjusted Carrying Value	Reclassify Related Party Encumbrances	Add Third Party Encumbrances	Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	5	6	7	8	9	10
							Factor	Amount (Cols.4 x 5)	Factor	Amount (Cols. 4 x 7)	Factor	Amount (Cols. 4 x 9)
COMMON STOCK												
1.		Unaffiliated - Public	22,971	XXX	XXX	22,971	0.0000		0.2370 (a)	5,444	0.2370 (a)	5,444
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	
6.		Fixed Income - Highest Quality					XXX		XXX		XXX	
7.		Fixed Income - High Quality					XXX		XXX		XXX	
8.		Fixed Income - Medium Quality					XXX		XXX		XXX	
9.		Fixed Income - Low Quality					XXX		XXX		XXX	
10.		Fixed Income - Lower Quality					XXX		XXX		XXX	
11.		Fixed Income - In/Near Default					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)	22,971			22,971	XXX		XXX	5,444	XXX	5,444
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	2	3	4	Basic Contribution		Reserve Objective		Maximum Reserve	
			Book/Adjusted Carrying Value	Reclassify Related Party Encumbrances	Add Third Party Encumbrances	Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	5	6	7	8	9	10
							Factor	Amount (Cols.4 x 5)	Factor	Amount (Cols. 4 x 7)	Factor	Amount (Cols. 4 x 9)
		INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF PREFERRED STOCKS										
30.	1	Highest Quality		XXX	XXX		0.0005		0.0016		0.0033	
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)		XXX	XXX		XXX		XXX		XXX	
		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	183,328	XXX	XXX	183,328	0.0000		0.1580	28,966	0.1580	28,966
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)	183,328			183,328	XXX		XXX	28,966	XXX	28,966
		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)	183,328			183,328	XXX		XXX	28,966	XXX	28,966

(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 - Replications (Synthetic) Assets
N O N E

Schedule F - Claims
N O N E

Schedule H - Part 1 - Analysis of Underwriting Operations
N O N E

Schedule H - Part 2 - Reserves and Liabilities
N O N E

Schedule H - Part 3 - Test of Prior Year's Claim Reserves and Liabilities
N O N E

Schedule H - Part 4 - Reinsurance
N O N E

Schedule H - Part 5 - Health Claims
N O N E

Schedule S - Part 1 - Section 1
N O N E

Schedule S - Part 1 - Section 2
N O N E

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

SCHEDULE S - PART 2

Reinsurance Recoverable on Paid and Unpaid Losses Listed by Reinsuring Company as of December 31, Current Year

1 NAIC Company Code	2 ID Number	3 Effective Date	4 Name of Company	5 Domiciliary Jurisdiction	6 Paid Losses	7 Unpaid Losses
.....65935 .....	..04-1590850 ..	..09/07/1983 ..	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY (MM95)	MA.....	.....11,821 .....	.....631,764
.....65935 .....	..04-1590850 ..	..01/01/2000 ..	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY (MM98)	MA.....	.....5,749,073 .....	.....10,257,454
0299999. Life and Annuity - U.S. Affiliates - Other					5,760,894	10,889,218
0399999. Total Life and Annuity - U.S. Affiliates					5,760,894	10,889,218
0699999. Total Life and Annuity - Non-U.S. Affiliates						
0799999. Total Life and Annuity - Affiliates					5,760,894	10,889,218
.....86258 .....	..13-2572994 ..	..02/08/1999 ..	GENERAL RE LIFE CORPORATION (CO81)	CT.....	.....42,493 .....	.....297,407
.....65676 .....	..35-0472300 ..	..02/08/1999 ..	LINCOLN NATIONAL LIFE INSURANCE COMPANY (LN81)	IN.....	.....62,870 .....	.....435,462
.....66346 .....	..58-0828824 ..	..02/08/1999 ..	MUNICH AMERICAN REASSURANCE COMPANY (MU81)	GA.....	.....80,076 .....	.....704,301
.....66346 .....	..58-0828824 ..	..01/01/1999 ..	MUNICH AMERICAN REASSURANCE COMPANY (MU82)	GA.....	.....85,513 .....	.....263,351
.....93572 .....	..43-1235868 ..	..01/01/1999 ..	RGA REINSURANCE COMPANY (AZ82)	MO.....	.....116,860 .....	.....313,123
.....93572 .....	..43-1235868 ..	..02/08/1999 ..	RGA REINSURANCE COMPANY (GA81)	MO.....	.....78,973 .....	.....435,462
.....82627 .....	..06-0839705 ..	..12/31/2016 ..	SWISS RE LIFE & HEALTH AMERICA INC. (SR16)	MO.....	.....3,006,626 .....	.....3,096,109
0899999. Life and Annuity - U.S. Non-Affiliates					3,473,411	5,545,215
1099999. Total Life and Annuity - Non-Affiliates					3,473,411	5,545,215
1199999. Total Life and Annuity					9,234,305	16,434,433
1499999. Total Accident and Health - U.S. Affiliates						
1799999. Total Accident and Health - Non-U.S. Affiliates						
1899999. Total Accident and Health - Affiliates						
2199999. Total Accident and Health - Non-Affiliates						
2299999. Total Accident and Health						
2399999. Total U.S. (Sum of 0399999, 0899999, 1499999 and 1999999)					9,234,305	16,434,433
2499999. Total Non-U.S. (Sum of 0699999, 0999999, 1799999 and 2099999)						
9999999 Totals - Life, Annuity and Accident and Health					9,234,305	16,434,433

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

SCHEDULE S - PART 3 - SECTION 1

Reinsurance Ceded Life Insurance, Annuities, Deposit Funds and Other Liabilities Without Life or Disability Contingencies, and Related Benefits Listed by Reinsuring Company as of December 31, Current Year

1 NAIC Company Code	2 ID Number	3 Effective Date	4 Name of Company	5 Domi- ciliary Juris- diction	6 Type of Reinsurance Ceded	7 Type of Business Ceded	8 Amount in Force at End of Year	Reserve Credit Taken		11 Premiums	Outstanding Surplus Relief		14 Modified Coinsurance Reserve	15 Funds Withheld Under Coinsurance
								9	10		12	13		
								Current Year	Prior Year		Current Year	Prior Year		
65935	04-1590850	09/07/1983	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY	MA	YRT/I	OL	256,789,995	4,039,199	4,152,916	4,680,911				
0299999. General Account - Authorized U.S. Affiliates - Other							256,789,995	4,039,199	4,152,916	4,680,911				
0399999. Total General Account - Authorized U.S. Affiliates							256,789,995	4,039,199	4,152,916	4,680,911				
0699999. Total General Account - Authorized Non-U.S. Affiliates														
0799999. Total General Account - Authorized Affiliates							256,789,995	4,039,199	4,152,916	4,680,911				
80659	82-4533188	03/01/1996	CANADA LIFE ASSURANCE COMPANY (CR57)	MI	YRT/I	OL	622,871	3,089	3,075	2,912				
86258	13-2572994	02/08/1999	GENERAL RE LIFE CORPORATION (CO81)	CT	YRT/I	OL	182,978,646	2,073,833	2,069,595	1,319,986				
65676	35-0472300	01/05/1983	LINCOLN NATIONAL LIFE INSURANCE COMPANY (LN16)	IN	YRT/I	OL	2,658,173	13,185	13,122	13,517				
65676	35-0472300	02/08/1999	LINCOLN NATIONAL LIFE INSURANCE COMPANY (LN81)	IN	YRT/I	OL	277,736,354	3,147,961	3,141,594	1,977,098				
66346	58-0828824	05/01/1994	MUNICH AMERICAN REASSURANCE COMPANY (CA48)	GA	YRT/I	OL	178,394	885	881	761				
66346	58-0828824	02/08/1999	MUNICH AMERICAN REASSURANCE COMPANY (MU81)	GA	YRT/I	OL	462,333,982	5,240,460	5,229,788	3,046,938				
66346	58-0828824	01/01/1999	MUNICH AMERICAN REASSURANCE COMPANY (MU82)	GA	YRT/I	OL	119,714,782	1,527,367	1,558,405	956,060				
66346	58-0828824	08/30/2010	MUNICH AMERICAN REASSURANCE COMPANY (MUL7)	GA	YRT/I	OL	14,963	35		70				
93572	43-1235868	05/01/1994	RGA REINSURANCE COMPANY (AZ51)	MO	YRT/I	OL	695,024	3,447	3,431	2,907				
93572	43-1235868	01/01/1999	RGA REINSURANCE COMPANY (AZ82)	MO	YRT/I	OL	143,861,881	1,835,091	1,872,383	1,464,322				
93572	43-1235868	02/08/1999	RGA REINSURANCE COMPANY (GA81)	MO	YRT/I	OL	277,736,354	3,147,961	3,141,594	1,944,233				
93572	43-1235868	08/30/2010	RGA REINSURANCE COMPANY (GAL7)	MO	YRT/I	OL	39,901	93		193				
64688	75-6020048	08/30/2010	SCOR GLOBAL LIFE AMERICAS REINSURANCE COMPANY (TAL7)	DE	YRT/I	OL	9,975	23		46				
97071	13-3126819	08/30/2010	SCOR GLOBAL LIFE USA REINSURANCE COMPANY (GIL7)	DE	YRT/I	OL	24,938	58		104				
82627	06-0839705	12/31/2016	SWISS RE LIFE & HEALTH AMERICA INC. (SR16V)	MO	MCO/I	OL	1,761,674,262			8,953,894	21,498,783	22,903,068	124,776,730	
82627	06-0839705	03/01/1996	SWISS RE LIFE & HEALTH AMERICA INC. (SR59)	MO	YRT/I	OL	3,471,439	17,219	17,137	19,930				
0899999. General Account - Authorized U.S. Non-Affiliates							3,233,751,939	17,010,707	17,051,005	19,702,971	21,498,783	22,903,068	124,776,730	
1099999. Total General Account - Authorized Non-Affiliates							3,233,751,939	17,010,707	17,051,005	19,702,971	21,498,783	22,903,068	124,776,730	
1199999. Total General Account Authorized							3,490,541,934	21,049,906	21,203,921	24,383,882	21,498,783	22,903,068	124,776,730	
1499999. Total General Account - Unauthorized U.S. Affiliates														
1799999. Total General Account - Unauthorized Non-U.S. Affiliates														
1899999. Total General Account - Unauthorized Affiliates														
2199999. Total General Account - Unauthorized Non-Affiliates														
2299999. Total General Account Unauthorized														
2599999. Total General Account - Certified U.S. Affiliates														
2899999. Total General Account - Certified Non-U.S. Affiliates														
2999999. Total General Account - Certified Affiliates														
3299999. Total General Account - Certified Non-Affiliates														
3399999. Total General Account Certified														
3699999. Total General Account - Reciprocal Jurisdiction U.S. Affiliates														
3999999. Total General Account - Reciprocal Jurisdiction Non-U.S. Affiliates														
4099999. Total General Account - Reciprocal Jurisdiction Affiliates														
4399999. Total General Account - Reciprocal Jurisdiction Non-Affiliates														
4499999. Total General Account Reciprocal Jurisdiction														
4599999. Total General Account Authorized, Unauthorized, Reciprocal Jurisdiction and Certified							3,490,541,934	21,049,906	21,203,921	24,383,882	21,498,783	22,903,068	124,776,730	
65935	04-1590850	01/01/2000	MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY	MA	MCO/G	OL	2,180,636,340			1,185,896			1,233,339,760	
4799999. Separate Accounts - Authorized U.S. Affiliates - Other							2,180,636,340			1,185,896			1,233,339,760	
4899999. Total Separate Accounts - Authorized U.S. Affiliates							2,180,636,340			1,185,896			1,233,339,760	
5199999. Total Separate Accounts - Authorized Non-U.S. Affiliates														
5299999. Total Separate Accounts - Authorized Affiliates							2,180,636,340			1,185,896			1,233,339,760	
82627	06-0839705	12/31/2016	SWISS RE LIFE & HEALTH AMERICA INC. (SR16V)	MO	MCO/I	OL							762,961,339	
5399999. Separate Accounts - Authorized U.S. Non-Affiliates													762,961,339	
5599999. Total Separate Accounts - Authorized Non-Affiliates													762,961,339	
5699999. Total Separate Accounts Authorized							2,180,636,340			1,185,896			1,996,301,099	
5999999. Total Separate Accounts - Unauthorized U.S. Affiliates														
6299999. Total Separate Accounts - Unauthorized Non-U.S. Affiliates														
6399999. Total Separate Accounts - Unauthorized Affiliates														
6699999. Total Separate Accounts - Unauthorized Non-Affiliates														
6799999. Total Separate Accounts Unauthorized														

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

SCHEDULE S - PART 3 - SECTION 1

Reinsurance Ceded Life Insurance, Annuities, Deposit Funds and Other Liabilities Without Life or Disability Contingencies, and Related Benefits Listed by Reinsuring Company as of December 31, Current Year

1 NAIC Company Code	2 ID Number	3 Effective Date	4 Name of Company	5 Domi- ciliary Juris- diction	6 Type of Reinsurance Ceded	7 Type of Business Ceded	8 Amount in Force at End of Year	Reserve Credit Taken		11 Premiums	Outstanding Surplus Relief		14 Modified Coinsurance Reserve	15 Funds Withheld Under Coinsurance
								9	10		12	13		
								Current Year	Prior Year		Current Year	Prior Year		
7099999. Total Separate Accounts - Certified U.S. Affiliates														
7399999. Total Separate Accounts - Certified Non-U.S. Affiliates														
7499999. Total Separate Accounts - Certified Affiliates														
7799999. Total Separate Accounts - Certified Non-Affiliates														
7899999. Total Separate Accounts Certified														
8199999. Total Separate Accounts - Reciprocal Jurisdiction U.S. Affiliates														
8499999. Total Separate Accounts - Reciprocal Jurisdiction Non-U.S. Affiliates														
8599999. Total Separate Accounts - Reciprocal Jurisdiction Affiliates														
8899999. Total Separate Accounts - Reciprocal Jurisdiction Non-Affiliates														
8999999. Total Separate Accounts Reciprocal Jurisdiction														
9099999. Total Separate Accounts Authorized, Unauthorized, Reciprocal Jurisdiction and Certified								2,180,636,340		1,185,896			1,996,301,099	
9199999. Total U.S. (Sum of 0399999, 0899999, 1499999, 1999999, 2599999, 3099999, 3699999, 4199999, 4899999, 5399999, 5999999, 6499999, 7099999, 7599999, 8199999 and 8699999)								5,671,178,274	21,049,906	21,203,921	25,569,778	21,498,783	22,903,068	2,121,077,829
9299999. Total Non-U.S. (Sum of 0699999, 0999999, 1799999, 2099999, 2899999, 3199999, 3999999, 4299999, 5199999, 5499999, 6299999, 6599999, 7399999, 7699999, 8499999 and 8799999)														
9999999 - Totals								5,671,178,274	21,049,906	21,203,921	25,569,778	21,498,783	22,903,068	2,121,077,829

Schedule S - Part 3 - Section 2
N O N E

Schedule S - Part 4
N O N E

Schedule S - Part 4 - Bank Footnote
N O N E

Schedule S - Part 5
N O N E

Schedule S - Part 5 - Bank Footnote
N O N E

SCHEDULE S - PART 6
Five Year Exhibit of Reinsurance Ceded Business
(\$000 Omitted)

	1 2023	2 2022	3 2021	4 2020	5 2019
A. OPERATIONS ITEMS					
1. Premiums and annuity considerations for life and accident and health contracts	25,570	25,926	27,962	29,056	29,332
2. Commissions and reinsurance expense allowances	10,142	10,260	10,397	10,227	10,093
3. Contract claims	56,249	115,591	50,234	47,279	37,361
4. Surrender benefits and withdrawals for life contracts	33,455	29,784	43,102	36,102	45,341
5. Dividends to policyholders and refunds to members					
6. Reserve adjustments on reinsurance ceded	(81,844)	(112,808)	(78,830)	(70,013)	(72,165)
7. Increase in aggregate reserve for life and accident and health contracts	(154)	324	(232)	18	(345)
B. BALANCE SHEET ITEMS					
8. Premiums and annuity considerations for life and accident and health contracts deferred and uncollected	927	(200)	1,171	(603)	(831)
9. Aggregate reserves for life and accident and health contracts	21,050	21,204	20,880	21,111	21,093
10. Liability for deposit-type contracts					
11. Contract claims unpaid	16,434	8,958	13,165	12,447	4,565
12. Amounts recoverable on reinsurance	9,234	7,749	7,715	7,479	1,679
13. Experience rating refunds due or unpaid	2,073	3,259	2,633	2,943	3,718
14. Policyholders' dividends and refunds to members (not included in Line 10)					
15. Commissions and reinsurance expense allowances due	2,537	2,520	26,673	28,453	12,590
16. Unauthorized reinsurance offset					
17. Offset for reinsurance with Certified Reinsurers					
C. UNAUTHORIZED REINSURANCE (DEPOSITS BY AND FUNDS WITHHELD FROM)					
18. Funds deposited by and withheld from (F)					
19. Letters of credit (L)					
20. Trust agreements (T)					
21. Other (O)					
D. REINSURANCE WITH CERTIFIED REINSURERS (DEPOSITS BY AND FUNDS WITHHELD FROM)					
22. Multiple Beneficiary Trust					
23. Funds deposited by and withheld from (F)					
24. Letters of credit (L)					
25. Trust agreements (T)					
26. Other (O)					

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

SCHEDULE S - PART 7

Restatement of Balance Sheet to Identify Net Credit for Ceded Reinsurance

	1 As Reported (net of ceded)	2 Restatement Adjustments	3 Restated (gross of ceded)
ASSETS (Page 2, Col. 3)			
1. Cash and invested assets (Line 12)	415,103,610		415,103,610
2. Reinsurance (Line 16)	17,541,718	(17,541,718)	
3. Premiums and considerations (Line 15)	(3,000,546)	927,136	(2,073,410)
4. Net credit for ceded reinsurance	XXX	35,421,621	35,421,621
5. All other admitted assets (balance)	7,486,908		7,486,908
6. Total assets excluding Separate Accounts (Line 26)	437,131,691	18,807,039	455,938,730
7. Separate Account assets (Line 27)	4,672,460,875		4,672,460,875
8. Total assets (Line 28)	5,109,592,566	18,807,039	5,128,399,605
LIABILITIES, CAPITAL AND SURPLUS (Page 3)			
9. Contract reserves (Lines 1 and 2)	141,691,572	21,049,905	162,741,477
10. Liability for deposit-type contracts (Line 3)	11,090,594		11,090,594
11. Claim reserves (Line 4)	9,596,059	16,434,433	26,030,492
12. Policyholder dividends/member refunds/reserves (Lines 5 through 7)			
13. Premium & annuity considerations received in advance (Line 8)			
14. Other contract liabilities (Line 9)	38,996,744	(18,718,545)	20,278,199
15. Reinsurance in unauthorized companies (Line 24.02 minus inset amount)			
16. Funds held under reinsurance treaties with unauthorized reinsurers (Line 24.03 minus inset amount)			
17. Reinsurance with Certified Reinsurers (Line 24.02 inset amount)			
18. Funds held under reinsurance treaties with Certified Reinsurers (Line 24.03 inset amount)			
19. All other liabilities (balance)	3,032,823	41,246	3,074,069
20. Total liabilities excluding Separate Accounts (Line 26)	204,407,791	18,807,039	223,214,830
21. Separate Account liabilities (Line 27)	4,672,460,875		4,672,460,875
22. Total liabilities (Line 28)	4,876,868,667	18,807,039	4,895,675,706
23. Capital & surplus (Line 38)	232,723,900	XXX	232,723,900
24. Total liabilities, capital & surplus (Line 39)	5,109,592,566	18,807,039	5,128,399,605
NET CREDIT FOR CEDED REINSURANCE			
25. Contract reserves	21,049,905		
26. Claim reserves	16,434,433		
27. Policyholder dividends/reserves			
28. Premium & annuity considerations received in advance			
29. Liability for deposit-type contracts			
30. Other contract liabilities	(18,718,545)		
31. Reinsurance ceded assets	17,541,718		
32. Other ceded reinsurance recoverables			
33. Total ceded reinsurance recoverables	36,307,510		
34. Premiums and considerations	927,136		
35. Reinsurance in unauthorized companies			
36. Funds held under reinsurance treaties with unauthorized reinsurers			
37. Reinsurance with Certified Reinsurers			
38. Funds held under reinsurance treaties with Certified Reinsurers			
39. Other ceded reinsurance payables/offsets	(41,246)		
40. Total ceded reinsurance payable/offsets	885,890		
41. Total net credit for ceded reinsurance	35,421,621		

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

SCHEDULE T - PREMIUMS AND ANNUITY CONSIDERATIONS (b)

Allocated by States and Territories

States, Etc.			1	Life Contracts		4	5	6	7
				2	3				
1.	Alabama	AL	L	156,470				156,470	
2.	Alaska	AK	L	46,196				46,196	
3.	Arizona	AZ	L	642,638				642,638	
4.	Arkansas	AR	L	79,473				79,473	
5.	California	CA	L	3,258,157				3,258,157	
6.	Colorado	CO	L	618,042				618,042	
7.	Connecticut	CT	L	746,217				746,217	
8.	Delaware	DE	L	68,794				68,794	
9.	District of Columbia	DC	L	218,450				218,450	
10.	Florida	FL	L	1,675,622				1,675,622	
11.	Georgia	GA	L	351,845				351,845	
12.	Hawaii	HI	L	147,017				147,017	
13.	Idaho	ID	L	76,602				76,602	
14.	Illinois	IL	L	889,291				889,291	
15.	Indiana	IN	L	301,381				301,381	
16.	Iowa	IA	L	348,968	1,800			350,768	
17.	Kansas	KS	L	200,978				200,978	
18.	Kentucky	KY	L	155,675				155,675	
19.	Louisiana	LA	L	248,437				248,437	
20.	Maine	ME	L	130,675				130,675	
21.	Maryland	MD	L	626,715				626,715	
22.	Massachusetts	MA	L	714,595				714,595	
23.	Michigan	MI	L	745,225				745,225	
24.	Minnesota	MN	L	320,917				320,917	
25.	Mississippi	MS	L	185,580				185,580	
26.	Missouri	MO	L	383,754				383,754	
27.	Montana	MT	L	197,667				197,667	
28.	Nebraska	NE	L	271,942	1,800			273,742	
29.	Nevada	NV	L	182,871				182,871	
30.	New Hampshire	NH	L	114,263				114,263	
31.	New Jersey	NJ	L	1,186,772				1,186,772	
32.	New Mexico	NM	L	88,360				88,360	
33.	New York	NY	N	132,171				132,171	
34.	North Carolina	NC	L	897,904				897,904	
35.	North Dakota	ND	L	7,119				7,119	
36.	Ohio	OH	L	960,500				960,500	
37.	Oklahoma	OK	L	547,318				547,318	
38.	Oregon	OR	L	274,999				274,999	
39.	Pennsylvania	PA	L	1,454,410				1,454,410	
40.	Rhode Island	RI	L	130,847				130,847	
41.	South Carolina	SC	L	488,747				488,747	
42.	South Dakota	SD	L	18,984				18,984	
43.	Tennessee	TN	L	521,611				521,611	
44.	Texas	TX	L	1,952,455				1,952,455	
45.	Utah	UT	L	304,767				304,767	
46.	Vermont	VT	L	58,784	1,200			59,984	
47.	Virginia	VA	L	1,066,660				1,066,660	
48.	Washington	WA	L	515,848				515,848	
49.	West Virginia	WV	L	164,973				164,973	
50.	Wisconsin	WI	L	395,306				395,306	
51.	Wyoming	WY	L	20,381				20,381	
52.	American Samoa	AS	N						
53.	Guam	GU	N						
54.	Puerto Rico	PR	N						
55.	U.S. Virgin Islands	VI	N						
56.	Northern Mariana Islands	MP	N						
57.	Canada	CAN	N						
58.	Aggregate Other Alien	OT	XXX	35,519				35,519	
59.	Subtotal	XXX		25,328,891	4,800			25,333,691	
90.	Reporting entity contributions for employee benefits plans.....	XXX							
91.	Dividends or refunds applied to purchase paid-up additions and annuities.....	XXX							
92.	Dividends or refunds applied to shorten endowment or premium paying period.....	XXX							
93.	Premium or annuity considerations waived under disability or other contract provisions.....	XXX		404,475				404,475	
94.	Aggregate or other amounts not allocable by State.....	XXX							
95.	Totals (Direct Business).....	XXX		25,733,366	4,800			25,738,166	
96.	Plus reinsurance assumed.....	XXX							
97.	Totals (All Business).....	XXX		25,733,366	4,800			25,738,166	
98.	Less reinsurance ceded.....	XXX		24,442,760				24,442,760	
99.	Totals (All Business) less Reinsurance Ceded	XXX		1,290,606	4,800	(c)		1,295,406	
DETAILS OF WRITE-INS									
58001.	ZZZ Other Alien	XXX		35,519				35,519	
58002.	XXX							
58003.	XXX							
58998.	Summary of remaining write-ins for Line 58 from overflow page	XXX							
58999.	Totals (Lines 58001 through 58003 plus 58998)(Line 58 above)	XXX		35,519				35,519	
9401.	XXX							
9402.	XXX							
9403.	XXX							
9498.	Summary of remaining write-ins for Line 94 from overflow page	XXX							
9499.	Totals (Lines 9401 through 9403 plus 9498)(Line 94 above)	XXX							

(a) Active Status Counts:

1. L - Licensed or Chartered - Licensed insurance carrier or domiciled RRG..... 50

2. R - Registered - Non-domiciled RRGs.....

3. E - Eligible - Reporting entities eligible or approved to write surplus lines in the state.....

4. Q - Qualified - Qualified or accredited reinsurer.....

5. N - None of the above - Not allowed to write business in the state..... 7

(b) Explanation of basis of allocation by states, etc., of premiums and annuity considerations

Individual insurance premiums and annuity considerations - allocated to the states in which the policyholder resides (based on Company records when the premium is received).

Group premiums - allocated consistent with the 500 lives rule.

(c) Column 4 should balance with Exhibit 1, Lines 6.4, 10.4 and 16.4, Col. 6, or with Schedule H, Part 1, Line 1, indicate which: Exhibit 1, Lines 6.4, 10.4, and 16.4, Col. 6.....

SCHEDULE T - PART 2
INTERSTATE COMPACT - EXHIBIT OF PREMIUMS WRITTEN

Allocated by States and Territories

			Direct Business Only				
			1	2	3	4	6
States, Etc.			Life (Group and Individual)	Annuities (Group and Individual)	Disability Income (Group and Individual)	Long-Term Care (Group and Individual)	Totals
1.	Alabama	AL	156,470				156,470
2.	Alaska	AK	46,196				46,196
3.	Arizona	AZ	642,638				642,638
4.	Arkansas	AR	79,473				79,473
5.	California	CA	3,258,157				3,258,157
6.	Colorado	CO	618,042				618,042
7.	Connecticut	CT	746,217				746,217
8.	Delaware	DE	68,794				68,794
9.	District of Columbia	DC	218,450				218,450
10.	Florida	FL	1,675,622				1,675,622
11.	Georgia	GA	351,845				351,845
12.	Hawaii	HI	147,017				147,017
13.	Idaho	ID	76,602				76,602
14.	Illinois	IL	889,291				889,291
15.	Indiana	IN	301,381				301,381
16.	Iowa	IA	348,968	1,800			350,768
17.	Kansas	KS	200,978				200,978
18.	Kentucky	KY	155,675				155,675
19.	Louisiana	LA	248,437				248,437
20.	Maine	ME	130,675				130,675
21.	Maryland	MD	626,715				626,715
22.	Massachusetts	MA	714,595				714,595
23.	Michigan	MI	745,225				745,225
24.	Minnesota	MN	320,917				320,917
25.	Mississippi	MS	185,580				185,580
26.	Missouri	MO	383,754				383,754
27.	Montana	MT	197,667				197,667
28.	Nebraska	NE	271,942	1,800			273,742
29.	Nevada	NV	182,871				182,871
30.	New Hampshire	NH	114,263				114,263
31.	New Jersey	NJ	1,186,772				1,186,772
32.	New Mexico	NM	88,360				88,360
33.	New York	NY	132,171				132,171
34.	North Carolina	NC	897,904				897,904
35.	North Dakota	ND	7,119				7,119
36.	Ohio	OH	960,500				960,500
37.	Oklahoma	OK	547,318				547,318
38.	Oregon	OR	274,999				274,999
39.	Pennsylvania	PA	1,454,410				1,454,410
40.	Rhode Island	RI	130,847				130,847
41.	South Carolina	SC	488,747				488,747
42.	South Dakota	SD	18,984				18,984
43.	Tennessee	TN	521,611				521,611
44.	Texas	TX	1,952,455				1,952,455
45.	Utah	UT	304,767				304,767
46.	Vermont	VT	58,784	1,200			59,984
47.	Virginia	VA	1,066,660				1,066,660
48.	Washington	WA	515,848				515,848
49.	West Virginia	WV	164,973				164,973
50.	Wisconsin	WI	395,306				395,306
51.	Wyoming	WY	20,381				20,381
52.	American Samoa	AS					
53.	Guam	GU					
54.	Puerto Rico	PR					
55.	U.S. Virgin Islands	VI					
56.	Northern Mariana Islands	MP					
57.	Canada	CAN					
58.	Aggregate Other Alien	OT	35,519				35,519
59.	Total		25,328,891	4,800			25,333,691

SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

The following entities are general partner level or above of **Massachusetts Mutual Life Insurance Company** (Parent)

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY	04-1590850	65935	Massachusetts
Direct & Indirect Owned Subsidiaries:			
C.M. Life Insurance Company	06-1041383	93432	Connecticut
MML Bay State Life Insurance Company	43-0581430	70416	Connecticut
CML Special Situations Investor LLC	None		Delaware
CM Life Mortgage Lending LLC	None		Delaware
CML Mezzanine Investor III, LLC	None		Delaware
CML Global Capabilities LLC	None		Delaware
MM Global Capabilities I LLC	None		Delaware
MassMutual Global Business Services India LLP	None		India
MM Global Capabilities (Netherlands) B.V.	None		Netherlands
MassMutual Global Business Services Romania S.R.L.	None		Romania
MM Global Capabilities II LLC	None		Delaware
MM Global Capabilities III LLC	None		Delaware
MM/Barings Multifamily TEBS 2020 LLC	None		Delaware
Berkshire Way LLC	04-1590850		Delaware
MML Special Situations Investor LLC	None		Delaware
Timberland Forest Holding LLC	47-5322979		Delaware
Lyme Adirondack Forest Company, LLC	None		Delaware
Lyme Adirondack Timberlands I, LLC	None		Delaware
Lyme Adirondack Timberlands II, LLC	None		Delaware
Lyme Adirondack Timber Sales, LLC	None		Delaware
MSP-SC, LLC	04-1590850		Delaware
Insurance Road LLC	04-1590850		Delaware
MassMutual Trad Private Equity LLC	04-1590850		Delaware
MassMutual Intellectual Property LLC	04-1590850		Delaware
Trad Investments I LLC	None		Delaware
ITPS Holding LLC	None		Delaware
HITPS LLC	None		Delaware
EM Opportunities LLC	None		Delaware
MassMutual MCAM Insurance Company, Inc.	None		Vermont
MassMutual Ventures US IV GP, LLC*	None		Delaware
MassMutual Ventures US IV, L.P.	None		Delaware
MassMutual Ventures US IV, LLC	None		Delaware
MassMutual Ventures Europe/APAC I GP, LLC	None		Delaware
MassMutual Ventures Europe/APAC I GP, L.P.	None		Cayman Islands
MassMutual Ventures Europe/APAC I L.P.	None		Cayman Islands

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	Federal Tax ID	NAIC Co Code	State of Domicile
Counterpointe Sustainable Advisors LLC	None		Delaware
CSA Intermediate Holdco LLC	None		Delaware
Counterpointe Trust Services LLC	None		Delaware
CP PACE LLC	None		Delaware
CSA Employee Services Company LLC	None		Delaware
Counterpointe Sustainable Real Estate II LLC	None		Delaware
Counterpointe Energy Solutions II LLC	None		Delaware
Counterpointe Energy Solutions (CA) II LLC	27-0105644		Delaware
Counterpointe Energy Solutions (FL) II LLC	None		Delaware
Counterpointe Energy Solutions (IL) LLC	None		Delaware
Loop-Counterpointe PACE LLC	None		Delaware
Counterpointe Energy Services LLC	None		Delaware
JFIN Parent LLC	None		Delaware
Jefferies Finance LLC	27-0105644		Delaware
JFIN GP Adviser LLC	None		Delaware
JFIN Fund III LLC	None		Delaware
Jefferies Credit Partners LLC	None		Delaware
Apex Credit Partners LLC	None		Delaware
Jefferies Credit Management LLC	None		Delaware
JCM GP I LLC	None		Delaware
JCP Direct Lending CLO 2022 LLC	None		Delaware
Jefferies Direct Lending Europe SCSp SICAV-RAIF	None		Luxembourg
Jefferies Credit Management Holdings LLC	None		Delaware
Senior Credit Investments, LLC	None		Delaware
JDLF GP (Europe) S.a.r.l	None		Luxembourg
JFAM GP LLC	None		Delaware
JFAM GP LP	None		Delaware
Jefferies Direct Lending Fund C LP	None		Delaware
Jefferies DLF C Holdings LLC	None		Delaware
Jefferies Direct Lending Fund C SPE LLC	None		Delaware
JDLF II GP LLC	None		Delaware
JDLF II GP LP	None		Delaware
Jefferies Direct Lending Fund II C LP	None		Delaware
Jefferies DLF 2 C Holdings LLC	None		Delaware
Jefferies Direct Lending Fund II C SPE LLC	None		Delaware
JCP Direct Lending CLO 2023-1 LLC	None		Delaware
JCP Direct Lending CLO 2023 Ltd.	None		Jersey Channel Islands
JCP GP I LLC	None		Delaware
Jefferies Private Credit BDC Inc.	None		Maryland
Jefferies Senior Lending LLC	None		Delaware
Jefferies Credit Partners BDC Inc	None		Maryland
JFIN Revolver Holdings LLC	None		Delaware
JFIN Revolver Holdings II LLC	None		Delaware

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	Federal Tax ID	NAIC Co Code	State of Domicile
JFIN Co-Issuer Corporation	None		Delaware
JFIN Europe GP, S.a.r.l.	None		Luxembourg
Jefferies Finance Europe, S.L.P.	None		Luxembourg
Jefferies Finance Europe, SCSp	None		Luxembourg
Jefferies Finance Business Credit LLC	None		Delaware
JFIN Business Credit Fund I LLC	None		Delaware
JFIN Funding 2021 LLC	None		Delaware
JFIN LC Fund LLC	None		Delaware
JFIN Revolver CLO 2017 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2017-II Ltd.	None		Cayman Islands
JFIN Revolver CLO 2017-III Ltd.	None		Cayman Islands
JFIN Revolver CLO 2018 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2019 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2019-II Ltd.	None		Cayman Islands
JFIN Revolver CLO 2020 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2021-II Ltd.	None		Cayman Islands
JFIN Revolver CLO 2021-V Ltd.	None		Cayman Islands
JFIN Revolver CLO 2022-II Ltd.	None		Cayman Islands
JFIN Revolver CLO 2022-III Ltd.	None		Cayman Islands
JFIN Revolver CLO 2022-IV Ltd.	None		Cayman Islands
JFIN Revolver CLO 2022-IV LLC	None		Cayman Islands
JFIN Revolver Fund, L.P.	None		Delaware
JFIN Revolver Funding 2021 Ltd.	None		Delaware
JFIN Revolver Funding 2021-III Ltd.	None		Delaware
JFIN Revolver Funding 2021-IV Ltd.	None		Delaware
JFIN Revolver Funding 2022-I Ltd.	None		Bermuda
JFIN Revolver SPE1 2022 LLC	None		Delaware
JFIN Revolver SPE3 2022 LLC	None		Delaware
JFIN Revolver SPE4 2022 LLC	None		Delaware
JFIN Revolver SPE4 2022 Ltd.	None		Delaware
SFL Parkway Funding 2022 LLC	None		Delaware
JCP Private Loan Management GP LLC	None		Delaware
JCP Private Loan Management LP	None		Delaware
Beauty Brands Acquisition Holdings LLC	None		Delaware
Beauty Brands Acquisition LLC	None		Delaware
Beauty Brands Acquisition Intermediate LLC	None		Delaware
Forma Brands, LLC	None		Delaware
Apex Credit Holdings LLC	None		Delaware
JFIN CLO 2012 Ltd.	None		Cayman Islands
JFIN CLO 2013 Ltd.	None		Cayman Islands
JFIN CLO 2014 Ltd.	None		Cayman Islands
JFIN CLO 2014-II Ltd.	None		Cayman Islands
JFIN CLO 2015 Ltd.	None		Cayman Islands

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
JFIN CLO 2015-II Ltd.	None		Cayman Islands
JFIN CLO 2016 Ltd.	None		Cayman Islands
JFIN CLO 2017 Ltd.	None		Cayman Islands
JFIN CLO 2017 II Ltd.	None		Cayman Islands
Tomorrow Parent, LLC	None		Delaware
Custom Ecology Holdco, LLC	None		Delaware
Glidepath Holdings Inc.	86-2294635		Delaware
MassMutual Ascend Life Insurance Company	13-1935920	63312	Ohio
AAG Insurance Agency, LLC	31-1422717		Kentucky
Annuity Investors Life Insurance Company	31-1021738	93661	Ohio
MM Ascend Life Investor Services, LLC	31-1395344		Ohio
MM Ascend Mortgage Lending LLC	None		Ohio
Manhattan National Holding, LLC	26-3260520		Ohio
Manhattan National Life Insurance Company	45-0252531	67083	Ohio
MassMutual Mortgage Lending LLC	None		Delaware
MM Copper Hill Road LLC	04-1590850		Delaware
MMV CTF I GP LLC	None		Delaware
MassMutual Ventures Climate Technology Fund I LP	None		Delaware
MM Direct Private Investment Holding LLC	None		Delaware
MM Direct Private Investments UK Limited	None		England & Wales
DPI-ACRES Capital LLC	None		Delaware
DPI-ARES Mortgage Lending LLC	None		Delaware
MM Investment Holding	None		Cayman Islands
MMIH Bond Holdings LLC	None		Delaware
MassMutual Asset Finance LLC*	26-0073611		Delaware
MMAF Equipment Finance LLC 2017-B	32-0546197		Delaware
MMAF Equipment Finance LLC 2019-A	83-3722640		Delaware
MMAF Equipment Finance LLC 2019-B	None		Delaware
MMAF Equipment Finance LLC 2020–A	None		Delaware
MMAF Equipment Finance LLC 2020–B	None		Delaware
MMAF Equipment Finance LLC 2021-A	None		Delaware
MMAF Equipment Finance LLC 2022–A	None		Delaware
MMAF Equipment Finance LLC 2022–B	None		Delaware
MMAF Equipment Finance LLC 2023-A	None		Delaware
MML Management Corporation	04-2443240		Massachusetts
MassMutual International Holding MSC, Inc.	04-3548444		Massachusetts
MassMutual Holding MSC, Inc.	04-3341767		Massachusetts
MML CM LLC	None		Delaware
Blueprint Income LLC	None		New York
Flourish Holding Company LLC	None		Delaware
Flourish Insurance Agency LLC	None		Delaware
Flourish Digital Assets LLC	None		Delaware
Flourish Financial LLC	None		Delaware

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	Federal Tax ID	NAIC Co Code	State of Domicile
Flourish Technologies LLC	None		Delaware
MML Distributors LLC*	04-3356880		Massachusetts
MML Investment Advisers, LLC	None		Delaware
MML Strategic Distributors, LLC	46-3238013		Delaware
The MassMutual Trust Company, FSB	06-1563535		Connecticut
MML Private Placement Investment Company I, LLC	04-1590850		Delaware
MML Private Equity Fund Investor LLC	04-1590850		Delaware
MM Private Equity Intercontinental LLC	04-1590850		Delaware
Pioneers Gate LLC	45-2738137		Delaware
MassMutual Holding LLC	04-2854319		Delaware
Fern Street LLC	37-1732913		Delaware
Low Carbon Energy Holding	None		United Kingdom
Sleeper Street LLC	None		Delaware
Teaktree Acquisition, LLC	None		Delaware
Haven Life Insurance Agency, LLC	46-2252944		Delaware
GASL Holdings LLC	None		Delaware
Barings Asset-Based Income Fund (US) LP*	None		Delaware
Barings Perpetual European Direct Lending Fund	None		Luxembourg
Barings Emerging Generation Fund II	88-0916548		Delaware
Babson Capital Global Special Situation Credit Fund 2*	98-1206017		Delaware
Barings Global Real Assets Fund LP*	82-3867745		Delaware
Barings Global Special Situations Credit Fund 3	None		Luxembourg
Barings North American Private Loan Fund LP	38-4010344		Delaware
MassMutual Assignment Company	06-1597528		North Carolina
MassMutual Capital Partners LLC	04-1590850		Delaware
Marco Hotel LLC	46-4255307		Delaware
HB Naples Golf Owner LLC	45-3623262		Delaware
RB Apartments LLC	82-4411267		Delaware
Intermodal Holding II LLC	None		Delaware
MassMutual Ventures Holding LLC	None		Delaware
Crane Venture Partners LLP	None		United Kingdom
MassMutual Ventures Management LLC	None		Delaware
MassMutual Ventures SEA Management Private Limited	None		Singapore
MMV UK/SEA Limited	None		England & Wales
MassMutual Ventures Southeast Asia I LLC	None		Delaware
MassMutual Ventures Southeast Asia II LLC	None		Delaware
MassMutual Ventures Southeast Asia III LLC	None		Delaware
MMV Digital I LLC	None		Cayman Islands
MassMutual Ventures UK LLC	None		Delaware
MassMutual Ventures US I LLC	47-1296410		Delaware
MassMutual Ventures US II LLC	None		Delaware
MassMutual Ventures US III LLC	None		Delaware

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP

PART 1 – ORGANIZATIONAL CHART

	Federal Tax ID	NAIC Co Code	State of Domicile
MM Catalyst Fund LLC	None		Delaware
MM Catalyst Fund II LLC	None		Delaware
MM Rothesay Holdco US LLC	04-1590850		Delaware
Rothesay Limited	None		United Kingdom
Rothesay Mortgages Limited	None		United Kingdom
Rothesay Life Plc	None		United Kingdom
Rothesay MA No.1 Limited	None		United Kingdom
Rothesay MA No.3 Limited	None		United Kingdom
Rothesay MA No.4 Limited	None		United Kingdom
LT Mortgage Finance Limited	None		United Kingdom
Rothesay Property Partnership 1 LLP	None		United Kingdom
Rothesay Foundation	None		United Kingdom
Rothesay Pensions Management Limited	None		United Kingdom
Rothesay Asset Management UK Limited	None		United Kingdom
Rothesay Asset Management Australia Pty Ltd	None		Australia
Rothesay Asset Management North America LLC	None		Delaware
MML Investors Services, LLC	04-1590850		Massachusetts
MML Insurance Agency, LLC	04-1590850		Massachusetts
MMLISI Financial Alliances, LLC	41-2011634		Delaware
LifeScore Labs, LLC	47-1466022		Massachusetts
MM Asset Management Holding LLC	45-4000072		Delaware
Barings LLC	51-0504477		Delaware
Baring Asset Management (Asia) Holdings Limited	98-0524271		Hong Kong, Special Administrative Region of China
Baring International Fund Managers (Bermuda) Limited	98-0457465		Bermuda
Baring Asset Management (Asia) Limited	98-0457463		Hong Kong, Special Administrative Region of China
Baring Asset Management Korea Limited	None		Korea
Barings Investment Management (Shanghai) Limited	None		Hong Kong, Special Administrative Region of China
Barings Overseas Investment Fund Management (Shanghai) Limited	None		Hong Kong, Special Administrative Region of China
Baring SICE (Taiwan) Limited	98-0457707		Taiwan ROC
Barings Singapore Pte. Ltd.	None		Singapore
Barings Japan Limited	98-0236449		Japan
Barings Australia Holding Company Pty Ltd	None		Australia
Barings Australia Pty Ltd	None		Australia
Barings Australia Real Estate Holdings Pty Ltd	None		Australia
Barings Australia Real Estate Pty Ltd	14-0045656		Australia
Barings Australia Property Partners Holdings Pty Ltd	98-0457456		Australia
Barings Australia Asset Management Pty Ltd	None		Australia
Barings Australia Property Partners Pty Ltd	None		Australia
Barings Australia Structured Finance Holdings Pty Ltd	None		Australia
Barings Australia Structured Finance Pty Ltd	None		Australia
Gryphon Capital Partners Pty Ltd	None		Australia
Gryphon Capital Management Pty Ltd	None		Australia
Gryphon Capital Investments Pty Ltd	None		Australia

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP

PART 1 – ORGANIZATIONAL CHART

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	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Barings Finance LLC	80-0875475		Delaware
BCF Europe Funding Limited	None		Ireland
BCF Senior Funding I LLC`	None		Delaware
BCF Senior Funding I Designated Activity Company	None		Ireland
Barings Real Estate Acquisitions LLC	None		Delaware
Barings Securities LLC	04-3238351		Delaware
Barings Guernsey Limited	98-0437588		Guernsey
Barings Europe Limited	None		United Kingdom
Barings Asset Management Spain SL	None		Spain
Baring France SAS	None		France
Baring International Fund Managers (Ireland) Limited	None		Ireland
Barings GmbH	None		Germany
Barings Italy S.r.l.	None		Italy
Barings Sweden AB	None		Sweden
Barings Netherlands B.V.	None		Netherlands
Barings (U.K.) Limited	98-0432153		United Kingdom
Barings Switzerland Sàrl	None		Switzerland
Baring Asset Management Limited	98-0241935		United Kingdom
Barings European Direct Lending 1 GP LLP	None		United Kingdom
Baring International Investment Limited	98-0457328		United Kingdom
Baring Fund Managers Limited	98-0457586		United Kingdom
BCGSS 2 GP LLP	None		United Kingdom
Baring Investment Services Limited	98-0457578		United Kingdom
Barings Core Fund Feeder I GP S.à.r.l.	None		Luxembourg
Barings Investment Fund (LUX) GP S.à r.l.	None		Luxembourg
Barings BME GP S.à.r.l.	None		United Kingdom
Barings GPC GP S.à.r.l.	None		Luxembourg
Barings European Core Property Fund GP Sà.r.l	None		United Kingdom
Barings Umbrella Fund (LUX) GP S.à.r.l.	None		Luxembourg
GPLF4(S) GP S.à r. l	None		Luxembourg
PREIF Holdings Limited Partnership	None		United Kingdom
BMC Holdings DE LLC	None		Delaware
Barings Real Estate Advisers Inc.	04-3238351		Delaware
Remington L & W Holdings LLC	81-4065378		Delaware
Aland Royalty GP, LLC	None		Delaware
Alaska Future Fund GP, LLC	None		Delaware
BAI Funds SLP, LLC	None		Delaware
BAI GP, LLC	None		Delaware
Baring Asset-Based Income Fund (US) GP, LLC	None		Delaware
Barings CMS Fund GP, LLC	None		Delaware
Barings Infiniti Fund Management LLC	None		Delaware
Barings Hotel Opportunity Venture I GP, LLC	None		Delaware

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

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	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Baring Investment Series LLC	None		Delaware
Barings Emerging Generation Fund GP, LLC	None		Delaware
Barings Emerging Generation Fund GP II, LLC	None		Delaware
Barings ERS PE Emerging Manager III GP, LLC	None		Delaware
Barings Global Investment Funds (U.S.) Management LLC	04-1590850		Delaware
Barings CLO Investment Partners GP, LLC	None		Delaware
Barings Core Property Fund GP LLC	None		Delaware
Barings Direct Lending GP Ltd.	None		Cayman Islands
Barings Global Energy Infrastructure Advisors, LLC	None		Delaware
Barings Centre Street CLO Equity Partnership GP, LLC	None		Delaware
Barings Centre Street CLO Equity Partnership LP	None		Delaware
Barings Global Real Assets Fund GP, LLC	None		Delaware
Barings GPSF LLC	None		Delaware
Barings North American Private Loan Fund Management, LLC	None		Delaware
Barings North American Private Loan Fund II Management, LLC	None		Delaware
Barings North American Private Loan Fund III Management, LLC	None		Delaware
Barings Global Special Situations Credit Fund 4 GP (Delaware) LLC	None		Delaware
Barings - MM Revolver Fund GP LLC	None		Delaware
Barings Real Estate European Value Add Fund II Feeder LLC	None		Cayman Islands
BMT RE Debt Fund GP LLC	None		Delaware
Barings Small Business Fund LLC	84-5063008		Delaware
Barings Active Passive Equity Direct EAFE LLC	None		Delaware
Benton Street Advisors, Inc.	98-0536233		Cayman Islands
BHOVI Incentive LLC	None		Delaware
BIG Real Estate Fund GP LLC	None		Delaware
BIG Real Estate Incentive I LLC	None		Delaware
BIG Real Estate Incentive II LLC	None		Delaware
BRECS VII GP LLC	None		Delaware
BREDIF GP LLC	None		Delaware
CREF X GP LLC	None		Delaware
Great Lakes III GP, LLC	04-1590850		Delaware
Lake Jackson LLC	None		Delaware
Barings Emerging Markets Blended Fund I GP, LLC	None		Delaware
Mezzco III LLC	41-2280126		Delaware
Mezzco IV LLC	80-0920285		Delaware
Mezzco Australia II LLC	None		Delaware
RECSA-NY GP LLC	None		Delaware
Barings CLO 2022-I	98-1624360		Cayman Island
Barings CLO 2022-II	None		Cayman Island
Amherst Long Term Holdings, LLC	None		Delaware
Enroll Confidently, Inc.	None		Delaware
MassMutual International LLC	04-3313782		Delaware
MassMutual Solutions LLC	None		Delaware

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	Federal Tax ID	NAIC Co Code	State of Domicile
Haven Technologies Asia Limited	None		Hong Kong
Yunfeng Financial Group Limited	None		Hong Kong
MassMutual Asia Limited (SPV)	None		Hong Kong
MassMutual External Benefits Group LLC	27-3576835		Delaware
5301 Wisconsin Avenue Associates, LLC	None		District of Columbia
5301 Wisconsin Avenue GP, LLC	None		Delaware
Other Affiliates & Funds:			
100 w. 3rd Street LLC	04-1590850		Delaware
300 South Tryon Hotel LLC	82-2432216		Delaware
300 South Tryon LLC	04-1590850		Delaware
Almack Mezzanine Fund II Unleveraged LP	None		United Kingdom
Barings Affordable Housing Mortgage Fund I LLC	82-3468147		Delaware
Barings Affordable Housing Mortgage Fund II LLC	61-1902329		Delaware
Barings Affordable Housing Mortgage Fund III LLC	85-3036663		Delaware
Barings Emerging Generation Fund II LP	None		Delaware
Barings Emerging Generation Fund, LP	84-3784245		Delaware
Barings Emerging Markets Corporate Bond Fund	None		Ireland
Barings Hotel Opportunity Venture I LP	None		Delaware
Barings Real Estate Debt Income Fund LP	85-3449260		Delaware
Barings Real Estate European Value Add I SCSp	None		Luxembourg
Barings Small Business Fund, L.P.	None		Delaware
Barings-MM Revolver Fund LP*	None		Delaware
Cornerstone Permanent Mortgage Fund LLC	45-2632610		Massachusetts
CREA Ridge Apartments, LLC	None		Delaware
London Office JV Holdings LLC	None		Delaware
Riverwalk MM Member, LLC	None		Delaware
Aland Royalty Holdings LP	None		Delaware
Chassis Acquisition Holding LLC	81-2244465		Delaware
CRA Aircraft Holding LLC	81-4258759		Delaware
EIP Holdings I, LLC	None		Delaware
Red Lake Ventures, LLC	46-5460309		Delaware
Validus Holding Company LLC	46-0687392		Delaware
VGS Acquisition Holding, LLC	None		Delaware
SBNP SIA II LLC	04-1590850		Delaware
SBNP SIA III LLC	None		Delaware
Barings European Real Estate Debt Income Fund	None		Luxembourg
Babson Capital Loan Strategies Fund, L.P.*	37-1506417		Delaware
Barings US High Yield Bond Fund	None		Ireland
Babson CLO Ltd. 2015-I	None		Cayman Islands
Babson CLO Ltd. 2015-II	None		Cayman Islands
Babson CLO Ltd. 2016-I	None		Cayman Islands
Babson CLO Ltd. 2016-II	None		Cayman Islands

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
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	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Barings CLO Ltd. 2017-I	None		Cayman Islands
Barings CLO 2018-III	None		Cayman Islands
Barings CLO 2018-IV	None		Cayman Islands
Barings CLO 2019-II	98-1473665		Cayman Islands
Barings CLO 2019-III	None		Cayman Islands
Barings CLO 2019-IV	None		Cayman Islands
Barings CLO 2020-I	None		Cayman Islands
Barings CLO 2020-II	None		Cayman Islands
Barings CLO 2020-III	None		Cayman Islands
Barings CLO 2020-IV	None		Cayman Islands
Barings CLO 2021-I	None		Cayman Islands
Barings CLO 2021-II	None		Cayman Islands
Barings CLO 2021-III	None		Cayman Islands
Babson Euro CLO 2014-I BV	None		Netherlands
Babson Euro CLO 2014-II BV	None		Netherlands
Babson Euro CLO 2015-I BV	None		Netherlands
Barings Euro CLO 2019-I	3603726OH		Ireland
Barings Euro CLO 2019-II	None		Ireland
Barings Euro CLO 2020-I DAC	None		Ireland
Barings Euro CLO 2021-I DAC	3715576VH		Ireland
Barings Euro CLO 2021-II DAC	3750378QH		Ireland
Barings Euro CLO 2021-III DAC	None		Ireland
Barings Euro CLO 2022-I DAC	None		Ireland
Barings Euro CLO 2023-II DAC	None		Ireland
Barings Global Em. Markets Equity Fund	82-5330194		North Carolina
Barings Global Energy Infrastructure Fund I LP	98-1332384		Cayman Islands
Barings Global Special Situations Credit 4 Delaware*	85-1465973		Delaware
Barings Global Special Situations Credit 4 LUX*	98-1570693		Luxembourg
Barings Global Technology Equity Fund	None		Ireland
Barings Global Dividends Champion Fund	None		Ireland
Barings Europe Select Fund	None		Ireland
Barings Hotel Opportunity Venture	87-0977058		Connecticut
Barings Innovations & Growth Real Estate Fund*	86-3661023		Delaware
Barings Middle Market CLO 2017-I Ltd & LLC	None		Cayman Islands
Barings Middle Market CLO 2018-I	None		Cayman Islands
Barings Middle Market CLO 2019-I	None		Cayman Islands
Barings Middle Market CLO Ltd 2021-I	98-1612604		Cayman Islands
Barings RE Credit Strategies VII LP	98-1332384		Delaware
Barings Target Yield Infrastructure Debt Fund	98-1567942		Luxembourg
Barings CLO Investment Partners LP	81-0841854		Delaware
Barings Euro Value Add II (BREEVA II)*	None		Luxembourg
Barings Transportation Fund LP*	87-1262754		Delaware
Braemar Energy Ventures I, L.P.*	None		Delaware

*This entity is owned by another or multiple entities in the group. Please refer to Sch Y Part 1A for the ownership and percentage information.

SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Barings European Core Property Fund SCSp*	None		Luxembourg
Barings European Private Loan Fund III A	46-5001122		Luxembourg
Benchmark 2018-B2 Mortgage Trust	38-4059932		New York
Benchmark 2018-B4	None		New York
Benchmark 2018-B8	38-4096530		New York
Barings Core Property Fund LP	20-5578089		Delaware
DPI Acres Capital SPV LLC	04-1590850		Delaware
DPI-ARES Mortgage Lending SPV, LLC	04-1590850		Delaware
E2E Affordable Housing Debt Fund LLC	None		Delaware
Great Lakes III, L.P.	37-1708623		Delaware
GIA EU Holdings - Emerson JV Sarl	98-1607033		Luxembourg
JPMCC Commercial Mortgage Securities Trust 2017-JP7	38-4041011; 38-4041012		New York
JPMDB Commercial Mortgage Securities Trust 2017-C5	38-4032059		New York
Martello Re Limited	None		Bermuda
Miami Douglas Three MM, LLC	04-1590850		Delaware
MM BIG Peninsula Co-Invest Member LLC*	87-4021641		Delaware
MM Direct Private Investment Holding	04-1590850		Delaware
MM CM Holding LLC	None		Delaware
MM Debt Participations LLC	81-3000420		Delaware
MM MD1 Station Member LLC*	04-1590850		Delaware
MM MD2 Station Member LLC*	04-1590850		Delaware
MMV Climate Technology Fund GP*	04-1590850		Delaware
MM REED District Landco Member LLC	None		Delaware
MM Subline Borrower LLC	04-1590850		Delaware
Washington Pine LLC	04-1590850		Delaware
Ten Fan Pier Boulevard LLC	35-2553915		Delaware
Tower Square Capital Partners III, L.P.	41-2280127		Delaware
Tower Square Capital Partners IIIA, L.P.	41-2280129		Delaware
Trailside MM Member LLC*	04-1590850		Delaware
Washington Gateway Three LLC	32-0574045		Delaware
Washington Gateway Two LLC*	83-1325764		Delaware
MALIC Debt Participations LLC	None		Delaware
Barings Affiliates & Funds:			
Babson Capital Loan Strategies Master Fund LP	None		Cayman Islands
Barings China Aggregate Bond Private Securities Investment Fund	None		Peoples Republic of China
Barings Global High Yield Fund	47-3790192		Massachusetts
Great Lakes II LLC*	71-1018134		Delaware
Wood Creek Venture Fund LLC	04-1590850		Delaware
Barings Real Estate Affiliates & Funds:			
Barings California Mortgage Fund IV	None		California
Barings Umbrella Fund LUX SCSp SICAV RAIF*	None		Luxembourg
Calgary Railway Holding LLC	82-2285211		Delaware
Cornbrook PRS Holdings LLC	82-3307907		Delaware

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

52.11

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
Cornerstone California Mortgage Fund I LLC	95-4207717		California
Cornerstone California Mortgage Fund II LLC	95-4207717		California
Cornerstone California Mortgage Fund III LLC	95-4207717		California
Cornerstone Fort Pierce Development, LLC*	56-2630592		Delaware
Cornerstone Permanent Mortgage Fund II LLC	61-1750537		Massachusetts
Cornerstone Permanent Mortgage Fund III LLC	35-2531693		Massachusetts
Cornerstone Permanent Mortgage Fund IV LLC	61-1793735		Massachusetts
CREA/PPC Venture, LLC	20-0348173		Delaware
Danville Riverwalk Venture, LLC	82-2783393		Delaware
Euro Real Estate Holdings LLC	04-1590850		Delaware
Fan Pier Development LLC*	20-3347091		Delaware
GIA EU Holdings LLC	04-1590850		Delaware
Landmark Manchester Holdings LLC	81-5360103		Delaware
MMLIC Debt Participations LLC	13-1935920		Delaware
MM Brookhaven Member LLC	04-1590850		Delaware
MM Ascend Mtg. Lending LLC	04-1590850		Delaware
MM Kannapolis Industrial Member LLC*	04-1590850		Delaware
MM East South Crossing Member LLC	04-1590850		Delaware
MM Horizon Savannah Member LLC*	04-1590850		Delaware
MM National Self-Storage Program Member LLC	04-1590850		Delaware
MM 1400 E 4th Street Member LLC	04-1590850		Delaware
One Harbor Shore LLC*	80-0948028		Delaware
Paco France Logistics LLC	04-1590850		Delaware
Salomon Brothers Commercial Mortgage Trust 2001-MM	None		Delaware
Three PW Office Holding LLC	81-5273574		Delaware
Trailside MM Member II LLC	04-1590850		Delaware
Unna, Dortmund Holding LLC	82-3250684		Delaware
Washington Gateway Apartments Venture LLC*	45-5401109		Delaware
West 37th Street Hotel LLC*	88-3861481		Delaware
MassMutual Premier Funds:			
MassMutual Premier Main Street Fund	51-0529328		Massachusetts
MassMutual Premier Strategic Emerging Markets Fund	26-3229251		Massachusetts
MassMutual Select Funds:			
MassMutual Select Fundamental Growth Fund	04-3512593		Massachusetts
MassMutual Select Mid-Cap Value Fund	42-1710935		Massachusetts
MassMutual Select Small Capital Value Equity Fund	02-0769954		Massachusetts
MassMutual Select Small Company Value Fund	04-3584140		Massachusetts
MassMutual Select T. Rowe Price Retirement 2005 Fund	82-3347422		Massachusetts
MassMutual Select T. Rowe Price Retirement 2010 Fund	82-3355639		Massachusetts
MassMutual Select T. Rowe Price Retirement 2015 Fund	82-3382389		Massachusetts
MassMutual Select T. Rowe Price Retirement 2020 Fund	82-3396442		Massachusetts
MassMutual Select T. Rowe Price Retirement 2025 Fund	82-3417420		Massachusetts
MassMutual Select T. Rowe Price Retirement 2030 Fund	82-3430358		Massachusetts

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SCHEDULE Y – INFORMATION CONCERNING ACTIVITIES OF INSURER MEMBERS OF A HOLDING COMPANY GROUP
PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	<u>NAIC Co Code</u>	<u>State of Domicile</u>
MassMutual Select T. Rowe Price Retirement 2035 Fund	82-3439837		Massachusetts
MassMutual Select T. Rowe Price Retirement 2040 Fund	82-3451779		Massachusetts
MassMutual Select T. Rowe Price Retirement 2045 Fund	82-3472295		Massachusetts
MassMutual Select T. Rowe Price Retirement 2050 Fund	82-3481715		Massachusetts
MassMutual Select T. Rowe Price Retirement 2055 Fund	82-3502011		Massachusetts
MassMutual Select T. Rowe Price Retirement 2060 Fund	82-3525148		Massachusetts
MassMutual Select T. Rowe Price Retirement Balanced Fund	82-3533944		Massachusetts
MML Series Investment Funds:			
MML Series International Equity Fund	46-4257056		Massachusetts
MML Series Investment Funds II:			
MML Series II Dynamic Bond Fund	47-3529636		Massachusetts
MML Series II Equity Rotation Fund	47-3544629		Massachusetts
MassMutual RetireSMART Funds:			
MassMutual RetireSMART 2035 Fund	27-1933380		Massachusetts
MassMutual RetireSMART 2045 Fund	27-1932769		Massachusetts
MassMutual RetireSMART 2055 Fund	46-3289207		Massachusetts
MassMutual RetireSMART 2060 Fund	47-5326235		Massachusetts
MassMutual 20/80 Allocation Fund	45-1618155		Massachusetts
MassMutual 80/20 Allocation Fund	45-1618222		Massachusetts
MassMutual RetireSMART In Retirement Fund	03-0532464		Massachusetts
MassMutual 40/60 Allocation Fund	45-1618262		Massachusetts
MassMutual 60/40 Allocation Fund	45-1618046		Massachusetts
MassMutual ishares 60/40 Allocation Fund	45-1618046		Massachusetts
MassMutual Balanced Fund	04-3212054		Massachusetts
MassMutual Blue Chip Growth Fund	04-3556992		Massachusetts
MassMutual Core Bond Fund	04-3277549		Massachusetts
MassMutual Disciplined Growth Fund	04-3539084		Massachusetts
MassMutual Disciplined Value Fund	04-3539083		Massachusetts
MassMutual Diversified Value Fund	01-0821120		Massachusetts
MassMutual Equity Opportunities Fund	04-3512590		Massachusetts
MassMutual Growth Opportunities Fund	04-3512589		Massachusetts
MassMutual Inflation-Protected and Income Fund	03-0532475		Massachusetts
MassMutual Mid Cap Growth Fund	04-3512596		Massachusetts
MassMutual Premier Diversified Bond Fund	04-3464165		Massachusetts
MassMutual RetireSMART by JPMorgan 2065 Fund	92-1441036		Massachusetts
MassMutual Select 80/20 Allocation Fund	45-1618222		Massachusetts
MassMutual Select Fundamental Value Fund	04-3584138		Massachusetts
MassMutual Select Overseas Fund	04-3557000		Massachusetts
MassMutual Select T Rowe Price Retirement 2065 Fund	92-1427882		Massachusetts
MassMutual Small Cap Growth Equity Fund	04-3464205		Massachusetts
MassMutual Small Cap Opportunities Fund	04-3424705		Massachusetts
MassMutual Small Cap Value Equity Fund	02-0769954		Massachusetts
MassMutual Strategic Bond Fund	26-0099965		Massachusetts

*This entity is owned by another or multiple entities in the group. Please refer to Sch Y Part 1A for the ownership and percentage information.

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

SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi-ciliary Location	Relation-ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Ownership Provide Percen-tage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Re-quired? (Yes/No)	*
. 0435 ...	Massachusetts Mut Life Ins Co .....	... 65935 ...	04-1590850 ..	3848388 .....	.....	.....	Massachusetts Mutual Life Insurance Company (MMLIC) .....	.. MA.....	.. UIP.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0435 ...	Massachusetts Mut Life Ins Co .....	... 93432 ...	06-1041383 ..	.....	.....	.....	C.M. Life Insurance Company .....	.. CT.....	.. UDP.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0435 ...	Massachusetts Mut Life Ins Co .....	... 70416 ...	43-0581430 ..	.....	.....	.....	MML Bay State Life Insurance Company .....	.. CT.....	.. RE.....	C.M. Life Insurance Company	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	CM Life Mortgage Lending LLC .....	.. DE.....	.. NIA.....	C.M. Life Insurance Company	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	CML Mezzanine Investor III, LLC .....	.. DE.....	.. NIA.....	C.M. Life Insurance Company	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	CML Special Situations Investor LLC .....	.. DE.....	.. NIA.....	C.M. Life Insurance Company	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	CML Global Capabilities LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	MM Global Capabilities I LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	MassMutual Global Business Services India LLP .....	.. IND.....	.. NIA.....	MM Global Capabilities I LLC	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	MM Global Capabilities (Netherlands) B.V. ...	.. NLD.....	.. NIA.....	MM Global Capabilities I LLC	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	MassMutual Global Business Services Romania S.R.L. ....	.. ROU.....	.. NIA.....	MM Global Capabilities (Netherlands) B.V.	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	MM Global Capabilities II LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	MM Global Capabilities III LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	MM/Barings Multifamily TEBS 2020 LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	Berkshire Way LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	MML Special Situations Investor LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	47-5322979 ..	.....	.....	.....	Timberland Forest Holding LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	47-5322979 ..	.....	.....	.....	Timberland Forest Holding LLC .....	.. DE.....	.. NIA.....	C.M. Life Insurance Company	Influence.....	.....	MMLIC .....	.....	.....
. 0000	47-5322979 ..	.....	.....	.....	Timberland Forest Holding LLC .....	.. DE.....	.. NIA.....	Wood Creek Capital Management LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000	Lyme Adirondack Forest Company, LLC .....	.. DE.....	.. NIA.....	Timberland Forest Holding LLC	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	Lyme Adirondack Timberlands I, LLC .....	.. DE.....	.. NIA.....	Lyme Adirondack Forest Company, LLC	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	Lyme Adirondack Timberlands II, LLC .....	.. DE.....	.. NIA.....	Lyme Adirondack Forest Company, LLC	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	Lyme Adirondack Timber Sales, LLC .....	.. DE.....	.. NIA.....	Lyme Adirondack Forest Company, LLC	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	MSP-SC, LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	Insurance Road LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	MassMutual Trad Private Equity LLC .....	.. DE.....	.. NIA.....	Insurance Road LLC	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	MassMutual Intellectual Property LLC .....	.. DE.....	.. NIA.....	Insurance Road LLC	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	Trad Investments I LLC .....	.. DE.....	.. NIA.....	Insurance Road LLC	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	ITPSHolding LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	HITPS LLC .....	.. DE.....	.. NIA.....	ITPS Holding LLC	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	EM Opportunities LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	MassMutual MCAM Insurance Company, Inc. ....	.. VT.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000 ...	MMLIC .....	.....	.....
. 0000	MassMutual Ventures US IV GP, LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 99.000 ...	MMLIC .....	.....	.....
. 0000	MassMutual Ventures US IV GP, LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Ascend	Ownership.....	.. 1.000 ...	MMLIC .....	.....	.....

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

SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12 Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	13 If Control is Owner- ship Provide Percen- tage	14 Ultimate Controlling Entity(ies)/Person(s)	15 Is an SCA Filing Re- quired? (Yes/No)	16 *
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi- ciliary Loca- tion	Rela- tion- ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)					
.0000	MassMutual Ventures US IV, L.P. ....	..DE.....	.....NIA.....	MassMutual Ventures US IV GP, LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	MassMutual Ventures US IV LLC .....	..DE.....	.....NIA.....	MassMutual Ventures US IV, L.P.	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0435	MassMutual Ventures Europe/APAC I GP, LLC ..	..DE.....	.....NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0435	MassMutual Ventures Europe/APAC I GP, L.P. .	..CYM.....	.....NIA.....	MassMutual Ventures Europe/APAC I GP, LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0435	MassMutual Ventures Europe/APAC I L.P. ....	..CYM.....	.....NIA.....	MassMutual Ventures Europe/APAC I GP, L.P.	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0435	Massachusetts Mutual Life Insurance Company .....	.....	.....	.....	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	Counterpointe Sustainable Advisors LLC .....	..DE.....	.....NIA.....	Counterpointe Sustainable Advisors LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	CSA Intermediate Holdco LLC .....	..DE.....	.....NIA.....	Counterpointe Sustainable Advisors LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	Counterpointe Trust Services LLC .....	..DE.....	.....NIA.....	CSA Intermediate Holdco LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	CP PACE LLC .....	..DE.....	.....NIA.....	CSA Intermediate Holdco LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	CSA Employee Services Company LLC .....	..DE.....	.....NIA.....	CSA Intermediate Holdco LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	Counterpointe Sustainable Real Estate II LLC	.....	.....	.....	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	Counterpointe Energy Solutions II LLC .....	..DE.....	.....NIA.....	CSA Intermediate Holdco LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	Counterpointe Energy Solutions (CA) II LLC ..	..DE.....	.....NIA.....	Counterpointe Energy Solutions II LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	Counterpointe Energy Solutions (FL) II LLC ..	..DE.....	.....NIA.....	Counterpointe Energy Solutions II LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	Counterpointe Energy Solutions (IL) LLC .....	..DE.....	.....NIA.....	Counterpointe Energy Solutions II LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	Loop-Counterpointe PACE LLC .....	..DE.....	.....NIA.....	Counterpointe Energy Solutions (IL) LLC ...	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	Counterpointe Energy Services LLC .....	..DE.....	.....NIA.....	CSA Intermediate Holdco LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	Massachusetts Mutual Life Insurance Company .....	.....	.....	.....	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	27-0105644 ..	.....	.....	.....	JFIN Parent LLC .....	..DE.....	.....NIA.....	JFIN Parent LLC	Ownership.....	50.000 ...	MMLIC .....	.....	1
.0000	Jefferies Finance LLC .....	..DE.....	.....NIA.....	Jefferies Finance LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	JFIN GP Adviser LLC .....	..DE.....	.....NIA.....	Jefferies Finance LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	JFIN Fund III LLC .....	..DE.....	.....NIA.....	Jefferies Finance LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	Jefferies Credit Partners LLC .....	..DE.....	.....NIA.....	Jefferies Finance LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	Apex Credit Partners LLC .....	..DE.....	.....NIA.....	Jefferies Credit Partners LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	Jefferies Credit Management LLC .....	..DE.....	.....NIA.....	Jefferies Credit Partners LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	JCM GP I LLC .....	..DE.....	.....NIA.....	Jefferies Credit Management LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	JCP Direct Lending CLO 2022 LLC .....	..DE.....	.....NIA.....	Jefferies Credit Partners LLC	Ownership.....	9.900 ...	MMLIC .....	.....	.....
.0000	Jefferies Direct Lending Europe SCSp SICAV- RAIF .....	..LUX.....	.....NIA.....	Jefferies Credit Partners LLC	Ownership.....	9.900 ...	MMLIC .....	.....	.....
.0000	Jefferies Credit Management Holdings LLC .....	..DE.....	.....NIA.....	Jefferies Credit Partners LLC	Ownership.....	9.900 ...	MMLIC .....	.....	.....
.0000	Senior Credit Investments, LLC .....	..DE.....	.....NIA.....	Jefferies Credit Partners LLC	Ownership.....	9.900 ...	MMLIC .....	.....	.....
.0000	JDLF GP (Europe) S.a.r.l .....	..LUX.....	.....NIA.....	Jefferies Credit Partners LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	JFAM GP LLC .....	..DE.....	.....NIA.....	Jefferies Credit Partners LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	JFAM GP LP .....	..DE.....	.....NIA.....	Jefferies Credit Partners LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	Jefferies Direct Lending Fund C LP .....	..DE.....	.....NIA.....	JFAM GP LP	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	Jefferies DLF C Holdings LLC .....	..DE.....	.....NIA.....	Jefferies Direct Lending Fund C LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	Jefferies Direct Lending Fund C SPE LLC .....	..DE.....	.....NIA.....	Jefferies DLF C Holdings LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	JDLF II GP LLC .....	..DE.....	.....NIA.....	Jefferies Credit Partners LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	JDLF II GP LP .....	..DE.....	.....NIA.....	JDLF II GP LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	Jefferies Direct Lending Fund II C LP .....	..DE.....	.....NIA.....	JDLF II GP LP	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	Jefferies DLF 2 C Holdings LLC .....	..DE.....	.....NIA.....	Jefferies Direct Lending Fund II C LP	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	Jefferies Direct Lending Fund II C SPE LLC ..	..DE.....	.....NIA.....	Jefferies DLF 2 C Holdings LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	JCP Direct Lending CLO 2023-1 LLC .....	..DE.....	.....NIA.....	Jefferies Credit Partners LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	JCP Direct Lending CLO 2023 Ltd. ....	..JEY.....	.....NIA.....	JCP Direct Lending CLO 2023 Ltd.	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	JCP GP I LLC .....	..DE.....	.....NIA.....	Jefferies Credit Partners LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....
.0000	Jefferies Private Credit BDC Inc. ....	..MD.....	.....NIA.....	Jefferies Finance LLC	Ownership.....	100.000 ...	MMLIC .....	.....	.....

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

SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi-ciliary Location	Relation-ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Ownership Provide Per-centage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Re-quired? (Yes/No)	*
.0000							Jefferies Senior Lending LLC	..DE	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							Jefferies Credit Partners BDC Inc	..MD	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Holdings LLC	..DE	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Holdings II LLC	..DE	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Co-Issuer Corporation	..DE	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Europe GP, S.a.r.l.	..LUX	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							Jefferies Finance Europe, S.L.P.	..LUX	.....NIA	JFIN Europe GP, S.a.r.l.	Ownership	100.000	MMLIC		
.0000							Jefferies Finance Europe, SCSp	..LUX	.....NIA	JFIN Europe GP, S.a.r.l.	Ownership	100.000	MMLIC		
.0000							Jefferies Finance Business Credit LLC	..DE	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Business Credit Fund I LLC	..DE	.....NIA	Jefferies Finance Business Credit LLC	Ownership	100.000	MMLIC		
.0000							JFIN Funding 2021 LLC	..DE	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN LC Fund LLC	..DE	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2017 Ltd.	..CYM	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2017-II Ltd.	..CYM	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2017-III Ltd.	..CYM	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2018 Ltd.	..CYM	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2019 Ltd.	..CYM	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2019-II Ltd.	..CYM	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2020 Ltd.	..CYM	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2021-II Ltd.	..CYM	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2021-V Ltd.	..CYM	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2022-II Ltd.	..CYM	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2022-III Ltd.	..CYM	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2022-IV Ltd.	..CYM	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver CLO 2022-IV LLC	..CYM	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Fund, L.P.	..DE	.....NIA	Jefferies Finance LLC	Ownership	90.000	MMLIC		
.0000							JFIN Revolver Funding 2021 Ltd.	..DE	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Funding 2021 III Ltd.	..DE	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Funding 2021 IV Ltd.	..DE	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver Funding 2022-I Ltd.	..BMU	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver SPE1 2022 LLC	..DE	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver SPE3 2022 LLC	..DE	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver SPE4 2022 LLC	..DE	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JFIN Revolver SPE4 2022 Ltd.	..DE	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							SFL Parkway Funding 2022 LLC	..DE	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JCP Private Loan Management GP LLC	..DE	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							JCP Private Loan Management LP	..DE	.....NIA	JCP Private Loan Management GP LLC	Ownership	100.000	MMLIC		
.0000							Beauty Brands Acquisition Holdings LLC	..DE	.....NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
.0000							Beauty Brands Acquisition LLC	..DE	.....NIA	Beauty Brands Acquisition Holdings LLC	Ownership	100.000	MMLIC		
.0000							Beauty Brands Acquisition Intermediate LLC	..DE	.....NIA	Beauty Brands Acquisition LLC	Ownership	100.000	MMLIC		
.0000							Beauty Brands Acquisition Intermediate LLC			Beauty Brands Acquisition Intermediate LLC					
.0000							Forma Brands, LLC	..DE	.....NIA		Ownership	100.000	MMLIC		
.0000							Apex Credit Holdings LLC	..DE	.....NIA	JFIN Parent LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2012 Ltd.	..CYM	.....NIA	Apex Credit Holdings LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2013 Ltd.	..CYM	.....NIA	Apex Credit Holdings LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2014 Ltd.	..CYM	.....NIA	Apex Credit Holdings LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2014-II Ltd.	..CYM	.....NIA	Apex Credit Holdings LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2015 Ltd.	..CYM	.....NIA	Apex Credit Holdings LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2015-II Ltd.	..CYMNIA	Apex Credit Holdings LLC	Ownership	85.000	MMLIC		

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SCHEDULE Y
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.0000							JFIN CLO 2016 Ltd.	..CYM	..NIA	Apex Credit Holdings LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2017 Ltd.	..CYM	..NIA	Apex Credit Holdings LLC	Ownership	100.000	MMLIC		
.0000							JFIN CLO 2017-II Ltd.	..CYM	..NIA	Apex Credit Holdings LLC	Ownership	100.000	MMLIC		
.0000							Tomorrow Parent, LLC	..DE	..NIA	JFIN Parent LLC	Ownership	100.000	MMLIC		
.0000							Custom Ecology Holdco, LLC	..DE	..NIA	JFIN Parent LLC	Ownership	100.000	MMLIC		
.0000			86-2294635				Glidepath Holdings Inc.	..DE	..NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0435	Massachusetts Mut Life Ins Co	63312	13-1935920				MassMutual Ascend Life Insurance Company	..OH	..IA	Glidepath Holdings Inc.	Ownership	100.000	MMLIC		
.0000			31-1422717				AAG Insurance Agency, LLC	..KY	..NIA	MassMutual Ascend Life Insurance Company	Ownership	100.000	MMLIC		
.0435	Massachusetts Mut Life Ins Co	93661	31-1021738				Annuity Investors Life Insurance Company	..OH	..IA	MassMutual Ascend Life Insurance Company	Ownership	100.000	MMLIC		
.0000			31-1395344				MM Ascend Life Investor Services, LLC	..OH	..NIA	MassMutual Ascend Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MM Ascend Mortgage Lending LLC	..OH	..NIA	MassMutual Ascend Life Insurance Company	Ownership	100.000	MMLIC		
.0000			26-3260520				Manhattan National Holding, LLC	..OH	..NIA	MassMutual Ascend Life Insurance Company	Ownership	100.000	MMLIC		
.0435	Massachusetts Mut Life Ins Co	67083	45-0252531				Manhattan National Life Insurance Company	..OH	..IA	Manhattan National Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Mortgage Lending LLC	..DE	..NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000			04-1590850				MM Copper Hill Road LLC	..DE	..NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MMV CTF I GP LLC	..DE	..NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures Climate Technology Fund I LP	..DE	..NIA	MMV CTF I GP LLC	Ownership	100.000	MMLIC		
.0000							MM Direct Private Investments Holding LLC	..DE	..NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MM Direct Private Investments UK Limited	..GBR	..NIA	MM Direct Private Investments Holding LLC	Ownership	100.000	MMLIC		
.0000							DPI-ACRES Capital LLC	..DE	..NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							DPI-ARES Mortgage Lending LLC	..DE	..NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MM Investment Holding	..CYM	..NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							MMTH Bond Holdings LLC	..DE	..NIA	MM Investment Holding	Ownership	99.610	MMLIC		
.0000			26-0073611				MassMutual Asset Finance LLC	..DE	..NIA	C.M. Life Insurance Company	Ownership	0.400	MMLIC		
.0000			26-0073611				MassMutual Asset Finance LLC	..DE	..NIA	MM Investment Holding	Ownership	99.600	MMLIC		
.0000			32-0546197				MMAF Equipment Finance LLC 2017-B	..DE	..NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000			83-3722640				MMAF Equipment Finance LLC 2019-A	..DE	..NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000							MMAF Equipment Finance LLC 2019-B	..DE	..NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000							MMAF Equipment Finance LLC 2020-A	..DE	..NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000							MMAF Equipment Finance LLC 2020-B	..DE	..NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000							MMAF Equipment Finance LLC 2021-A	..DE	..NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000							MMAF Equipment Finance LLC 2022-A	..DE	..NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000							MMAF Equipment Finance LLC 2022-B	..DE	..NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000							MMAF Equipment Finance LLC 2023-A	..DE	..NIA	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
.0000			04-2443240				MML Management Corporation	..MA	..NIA	MM Investment Holding	Ownership	100.000	MMLIC	..YES	
.0000			04-3548444				MassMutual International Holding MSC, Inc.	..MA	..NIA	MML Management Corporation	Ownership	100.000	MMLIC		
.0000			04-3341767				MassMutual Holding MSC, Inc.	..MA	..NIA	MML Management Corporation	Ownership	100.000	MMLIC		
.0000							MML CM LLC	..DE	..NIA	Massachusetts Mutual Life Insurance Company	Ownership	100.000	MMLIC		
.0000							Blueprint Income LLC	..NY	..NIA	MML CM LLC	Ownership	100.000	MMLIC		
.0000							Flourish Holding Company LLC	..DE	..NIA	MML CM LLC	Ownership	100.000	MMLIC		
.0000							Flourish Insurance Agency LLC	..DE	..NIA	Flourish Holding Company LLC	Ownership	100.000	MMLIC		

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.0000							Flourish Digital Assets LLCDE.....	NIA.....	Flourish Holding Company LLC	Ownership.....	100.000	MMLIC		
.0000							Flourish Financial LLC .....	..DE.....	NIA.....	Flourish Holding Company LLC	Ownership.....	100.000	MMLIC		
.0000							Flourish Technologies LLC .....	..DE.....	NIA.....	Flourish Holding Company LLC	Ownership.....	100.000	MMLIC		
.0000			04-3356880				MML Distributors LLC .....	..MA.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	99.000	MMLIC		
.0000			04-3356880				MML Distributors LLC .....	..MA.....	NIA.....	MassMutual Holding LLC	Ownership.....	1.000	MMLIC		
.0000							MML Investment Advisers, LLC .....	..DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000	MMLIC		
.0000			46-3238013				MML Strategic Distributors, LLC .....	..DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000	MMLIC		
.0000			06-1563535	2881445			The MassMutual Trust Company, FSB .....	..CT.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000	MMLIC .....	...YES...	
.0000			04-1590850				MML Private Placement Investment Company I, LLC .....	..DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000	MMLIC		
.0000			04-1590850				MML Private Equity Fund Investor LLC .....	..DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000	MMLIC		
.0000			04-1590850				MML Private Equity Fund Investor LLC .....	..DE.....	NIA.....	Baring Asset Management Limited	Management.....		MMLIC		
.0000			04-1590850				MM Private Equity Intercontinental LLC .....	..DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000	MMLIC		
.0000			45-2738137				Pioneers Gate LLC .....	..DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000	MMLIC		
.0000			04-2854319	2392316			MassMutual Holding LLC .....	..DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000	MMLIC .....	...YES...	
.0000			37-1732913				Fern Street LLC .....	..DE.....	NIA.....	MassMutual Holding LLC	Ownership.....	100.000	MMLIC		
.0000							Low Carbon Energy Holding .....	..GBR.....	NIA.....	MassMutual Holding LLC	Ownership.....	49.000	MMLIC		
.0000							Sleeper Street LLC .....	..DE.....	NIA.....	MassMutual Holding LLC	Ownership.....	100.000	MMLIC		
.0000							Teaktree Acquisition, LLC .....	..DE.....	NIA.....	MassMutual Holding LLC	Ownership/Influence	14.700	MMLIC		
.0000							Teaktree Acquisition, LLC .....	..DE.....	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000			46-2252944				Haven Life Insurance Agency, LLC .....	..DE.....	NIA.....	MassMutual Holding LLC	Ownership.....	100.000	MMLIC		
.0000			82-2932156				GASL Holdings LLC .....	..DE.....	NIA.....	MassMutual Holding LLC	Ownership.....	11.300	MMLIC		
.0000			82-2932156				GASL Holdings LLC .....	..DE.....	NIA.....	Barings LLC	Board		MMLIC		
.0000			36-4868350				Barings Asset-Based Income Fund (US) LP .....	..DE.....	NIA.....	MassMutual Holding LLC	Ownership/Influence	10.800	MMLIC		
.0000			36-4868350				Barings Asset-Based Income Fund (US) LP .....	..DE.....	NIA.....	C.M. Life Insurance Company	Ownership/Influence	1.100	MMLIC		
.0000			36-4868350				Barings Asset-Based Income Fund (US) LP .....	..DE.....	NIA.....	Barings LLC	Management.....		MMLIC		
.0000							Barings Perpetual European Direct Lending Fund .....	..LUX.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	95.800	MMLIC		
.0000							Barings Perpetual European Direct Lending Fund .....	..LUX.....	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000			88-0916548				Barings Emerging Generation Fund II .....	..DE.....	NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	74.300	MMLIC		
.0000			88-0916548				Barings Emerging Generation Fund II .....	..DE.....	NIA.....	Barings LLC	Influence.....		MMLIC		
.0000			98-1206017				Babson Capital Global Special Situation Credit Fund 2 .....	..DE.....	NIA.....	MassMutual Holding LLC	Ownership/Influence	25.500	MMLIC		
.0000			98-1206017				Babson Capital Global Special Situation Credit Fund 2 .....	..DE.....	NIA.....	C.M. Life Insurance Company	Ownership.....	1.600	MMLIC		
.0000			98-1206017				Babson Capital Global Special Situation Credit Fund 2 .....	..DE.....	NIA.....	Barings LLC	Management.....		MMLIC		
.0000			82-3867745				Barings Global Real Assets Fund LP .....	..DE.....	NIA.....	MassMutual Holding LLC	Ownership/Influence	39.600	MMLIC		
.0000			82-3867745				Barings Global Real Assets Fund LP .....	..DE.....	NIA.....	C.M. Life Insurance Company	Ownership.....	6.900	MMLIC		
.0000			82-3867745				Barings Global Real Assets Fund LPDE.....	NIA.....	Barings LLC	Management.....		MMLIC		

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.0000							Barings Global Special Situations Credit Fund 3	.LUX	NIA	MassMutual Holding LLC	Ownership/Influence	.20.000	MMLIC		
.0000							Barings Global Special Situations Credit Fund 3	.LUX	NIA	Barings LLC	Management		MMLIC		
.0000			38-4010344				Barings North American Private Loan Fund LP	.DE	NIA	MassMutual Holding LLC	Ownership/Influence	.31.200	MMLIC		
.0000			38-4010344				Barings North American Private Loan Fund LP	.DE	NIA	Baring Asset Management Limited	Management		MMLIC		
.0000			06-1597528				MassMutual Assignment Company	.NC	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MassMutual Capital Partners LLC	.DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			46-4255307				Marco Hotel LLC	.DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			45-3623262				HB Naples Golf Owner LLC	.DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			82-4411267				RB Apartments LLC	.DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							Intermodal Holding II LLC	.DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures Holding LLC	.DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							Crane Venture Partners LLP	.GBR	NIA	MassMutual Ventures Holding LLC	Ownership	.33.000	MMLIC		
.0000							MassMutual Ventures Management LLC	.DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures SEA Management Private Limited	.DE	NIA	MassMutual Ventures Management LLC	Ownership	100.000	MMLIC		
.0000							MMV UK/SEA Limited	.GBR	NIA	MassMutual Ventures SEA Management Private Limited	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures Southeast Asia I LLC	.DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures Southeast Asia II LLC	.DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures Southeast Asia III LLC	.DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MMV Digital I LLC	.CYM	NIA	MassMutual Ventures Southeast Asia III LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures UK LLC	.DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000			47-1296410				MassMutual Ventures US I LLC	.DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures US II LLC	.DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MassMutual Ventures US III LLC	.DE	NIA	MassMutual Ventures Holding LLC	Ownership	100.000	MMLIC		
.0000							MM Catalyst Fund LLC	.DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							MM Catalyst Fund II LLC	.DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MM Rothesay Holdco US LLC	.DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000							Rothesay Limited	.GBR	NIA	MM Rothesay Holdco US LLC	Ownership	.48.800	MMLIC		
.0000							Rothesay Mortgages Limited	.GBR	NIA	Rothesay Limited	Ownership	100.000	MMLIC		
.0000							Rothesay Life Plc	.GBR	NIA	Rothesay Limited	Ownership	100.000	MMLIC		
.0000							Rothesay MA No.1 Limited	.GBR	NIA	Rothesay Life PLC	Ownership	100.000	MMLIC		
.0000							Rothesay MA No.3 Limited	.GBR	NIA	Rothesay Life PLC	Ownership	100.000	MMLIC		
.0000							Rothesay MA No.4 Limited	.GBR	NIA	Rothesay Life PLC	Ownership	100.000	MMLIC		
.0000							LT Mortgage Finance Limited	.GBR	NIA	Rothesay Life PLC	Ownership	100.000	MMLIC		
.0000							Rothesay Property Partnership 1 LLP	.GBR	NIA	Rothesay Life PLC	Ownership	100.000	MMLIC		
.0000							Rothesay Foundation	.GBR	NIA	Rothesay Limited	Ownership	100.000	MMLIC		
.0000							Rothesay Pensions Management Limited	.GBR	NIA	Rothesay Limited	Ownership	100.000	MMLIC		
.0000							Rothesay Asset Management UK Limited	.GBR	NIA	Rothesay Limited	Ownership	100.000	MMLIC		
.0000							Rothesay Asset Management Australia Pty Ltd	.AUS	NIA	Rothesay Asset Management UK Limited	Ownership	100.000	MMLIC		
.0000							Rothesay Asset Management North America LLC	.DE	NIA	Rothesay Asset Management UK Limited	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Investors Services, LLC	.MA	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				MML Insurance Agency, LLC	.MA	NIA	MML Investors Services, LLC	Ownership	100.000	MMLIC		
.0000			41-2011634				MMLISI Financial Alliances, LLC	.DE	NIA	MML Investors Services, LLC	Ownership	100.000	MMLIC		
.0000			47-1466022				LifeScore Labs, LLC	.MA	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			45-4000072				MM Asset Management Holding LLC	.MA	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		

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.0000			51-0504477				Barings LLC	.MA	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
.0000			98-0524271				Baring Asset Management (Asia) Holdings Limited	.HKG	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			98-0457465				Baring International Fund Managers (Bermuda) Limited	.BMU	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0457463				Baring Asset Management (Asia) Limited	.HKG	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000							Baring Asset Management Korea Limited	.KOR	NIA	Baring Asset Management (Asia) Limited	Ownership	100.000	MMLIC		
.0000							Barings Investment Management (Shanghai) Limited	.HKG	NIA	Baring Asset Management (Asia) Limited	Ownership	100.000	MMLIC		
.0000							Barings Overseas Investment Fund Management (Shanghai) Limited	.HKG	NIA	Baring Asset Management (Asia) Limited	Ownership	100.000	MMLIC		
.0000			98-0457707				Baring SICE (Taiwan) Limited	.TWN	NIA	Barings Investment Management (Shanghai) Limited	Ownership	100.000	MMLIC		
.0000							Barings Singapore Pte. Ltd.	.SGP	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000			98-0236449				Barings Japan Limited	.JPN	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000							Barings Australia Holding Company Pty Ltd	.AUS	NIA	Baring Asset Management (Asia) Holdings Limited	Ownership	100.000	MMLIC		
.0000							Barings Australia Pty Ltd	.AUS	NIA	Barings Australia Holding Company Pty Ltd	Ownership	100.000	MMLIC		
.0000							Barings Australia Real Estate Holdings Pty Ltd	.AUS	NIA	Barings Australia Holding Company Pty Ltd	Ownership	100.000	MMLIC		
.0000			14-0045656				Barings Australia Real Estate Pty Ltd	.AUS	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			98-0457456				Barings Australia Property Partners Holdings Pty Ltd	.AUS	NIA	Barings Australia Real Estate Holdings Pty Ltd	Ownership	100.000	MMLIC		
.0000							Barings Australia Asset Management Pty Ltd	.AUS	NIA	Barings Australia Real Estate Pty Ltd	Ownership	100.000	MMLIC		
.0000							Barings Australia Property Partners Pty Ltd	.AUS	NIA	Barings Australia Property Partners Holdings Pty Ltd	Ownership	100.000	MMLIC		
.0000							Barings Australia Structured Finance Holdings Pty Ltd	.AUS	NIA	Barings Australia Property Partners Holdings Pty Ltd	Ownership	100.000	MMLIC		
.0000							Barings Australia Structured Finance Pty Ltd	.AUS	NIA	Barings Australia Property Partners Holdings Pty Ltd	Ownership	100.000	MMLIC		
.0000							Gryphon Capital Partners Pty Ltd	.AUS	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Gryphon Capital Management Pty Ltd	.AUS	NIA	Barings Australia Structured Finance Holdings Pty Ltd	Ownership	100.000	MMLIC		
.0000							Gryphon Capital Investments Pty Ltd	.AUS	NIA	Barings Australia Structured Finance Pty Ltd	Ownership	100.000	MMLIC		
.0000			80-0875475				Barings Finance LLC	.DE	NIA	Gryphon Capital Partners Pty Ltd	Ownership	100.000	MMLIC		
.0000							BCF Europe Funding Limited	.IRL	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BCF Senior Funding I LLC	.DE	NIA	Barings Finance LLC	Ownership	100.000	MMLIC		
.0000							BCF Senior Funding I Designated Activity Company	.IRL	NIA	Barings Finance LLC	Ownership	100.000	MMLIC		
.0000							Barings Real Estate Acquisitions LLC	.DE	NIA	Barings Finance LLC	Ownership	100.000	MMLIC		
.0000			04-3238351				Barings Securities LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			98-0437588				Barings Guernsey Limited	.GGY	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Europe Limited	.GBR	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Asset Management Spain SL	.ESP	NIA	Barings Guernsey Limited	Ownership	100.000	MMLIC		
.0000							Baring France SAS	.FRA	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Baring International Fund Managers (Ireland) Limited	.IRL	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		

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PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi-ciliary Location	Relation-ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Ownership Provide Percentage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Re-quired? (Yes/No)	*
.0000							Barings GmbH	.DEU	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Italy S.r.l.	.ITA	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Sweden AB	.SWE	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Netherlands B.V.	.NLD	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000			98-0432153				Barings (U.K.) Limited	.GBR	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings Switzerland Sàrl	.CHE	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000			98-0241935				Baring Asset Management Limited	.GBR	NIA	Barings Europe Limited	Ownership	100.000	MMLIC		
.0000							Barings European Direct Lending 1 GP LLP	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-0457328				Baring International Investment Limited	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000			98-0457586				Baring Fund Managers Limited	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							BCGSS 2 GP LLP	.GBR	NIA	Baring Fund Managers Limited	Ownership	100.000	MMLIC		
.0000			98-0457578				Baring Investment Services Limited	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings Core Fund Feeder I GP S.à.r.l.	.LUX	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings Investment Fund (LUX) GP S.à. r.l.	.LUX	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings BME GP S.à.r.l.	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings GPC GP S.à. r.l.	.LUX	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings European Core Property Fund GP Sàrl	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							Barings Umbrella Fund (LUX) GP S.à.r.l.	.LUX	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							GPLF4(S) GP S.à. r. l	.LUX	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							PREIF Holdings Limited Partnership	.GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
.0000							BMC Holdings DE LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-3238351	3456895			Barings Real Estate Advisers Inc.	.CA	NIA	Barings LLC	Ownership	100.000	MMLIC		
							Massachusetts Mutual Life Insurance Company								
.0000			81-4065378				Remington L & W Holdings LLC	.DE	NIA	Barings LLC	Ownership/Influence	19.900	MMLIC		
.0000			81-4065378				Remington L & W Holdings LLC	.DE	NIA	Barings LLC	Influence		MMLIC		
.0000							Aland Royalty GP, LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Alaska Future Fund GP, LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BAI Funds SLP, LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BAI GP, LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Baring Asset-Based Income Fund (US) GP, LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings CMS Fund GP, LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Infiniti Fund Management LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
							Massachusetts Mutual Life Insurance Company								
.0000							Barings Hotel Opportunity Venture I GP, LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Baring Investment Series LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Emerging Generation Fund GP, LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Emerging Generation Fund GP II, LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings ERS PE Emerging Manager III GP, LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Global Investment Funds (U.S.) Management LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				Barings CLO Investment Partners GP, LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Core Property Fund GP LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Direct Lending GP Ltd.	.CYM	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Global Energy Infrastructure Advisors, LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Centre Street CLO Equity Partnership GP, LLC	.DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Centre Street CLO Equity Partnership LP	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	23.900	MMLIC		

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

SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12 Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	13 If Control is Owner- ship Provide Percen- tage	14 Ultimate Controlling Entity(ies)/Person(s)	15 Is an SCA Filing Re- quired? (Yes/No)	16 *
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi- ciliary Loca- tion	Rela- tion- ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)					
.0000			88-3792609				Barings Centre Street CLO Equity Partnership LP	..DE	.....NIA	Barings LLC	Management		MMLIC		
.0000							Barings Global Real Assets Fund GP, LLC	..DE	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings GPSF LLC	..DE	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings North American Private Loan Fund Management, LLC	..DE	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings North American Private Loan Fund II Management, LLC	..DE	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings North American Private Loan Fund III Management, LLC	..DE	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Global Special Situations Credit Fund 4 GP (Delaware) LLC	..DE	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings - MM Revolver Fund GP LLC	..DE	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Real Estate European Value Add Fund II Feeder LLC	..CYM	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BMT RE Debt Fund GP LLC	..DE	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			84-5063008				Barings Small Business Fund LLC	..DE	.....NIA	Company	Ownership	32.100	MMLIC		
.0000			84-5063008				Barings Small Business Fund LLC	..DE	.....NIA	Barings LLC	Management		MMLIC		
.0000			98-0536233				Benton Street Advisors, Inc.	..CYM	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Active Passive Equity Direct EAFE LLC	..DE	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BHOVI Incentive LLC	..DE	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BIG Real Estate Fund GP LLC	..DE	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BIG Real Estate Incentive I LLC	..DE	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BIG Real Estate Incentive II LLC	..DE	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BRECS VII GP LLC	..DE	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							BREDIF GP LLC	..DE	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							CREF X GP LLC	..DE	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			04-1590850				Great Lakes III GP, LLC	..DE	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Lake Jackson LLC	..DE	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							Barings Emerging Markets Blended Fund I GP, LLC	..DE	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			41-2280126				Mezzco III LLC	..DE	.....NIA	Barings LLC	Ownership	99.300	MMLIC		
.0000			80-0920285				Mezzco IV LLC	..DE	.....NIA	Barings LLC	Ownership	99.300	MMLIC		
.0000							Mezzco Australia II LLC	..DE	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000							RECSA-NY GP LLC	..DE	.....NIA	Barings LLC	Ownership	100.000	MMLIC		
.0000			98-1624360				Barings CLO 2022-I	..CYM	.....NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2022-II	..CYM	.....NIA	Barings LLC	Influence		MMLIC		
.0000							Amherst Long Term Holdings, LLC	..DE	.....NIA	Company	Ownership	24.500	MMLIC		
.0000							Enroll Confidently, Inc.	..DE	.....NIA	Company	Ownership	25.000	MMLIC		
.0000			04-3313782				MassMutual International LLC	..DE	.....NIA	Company	Ownership	100.000	MMLIC	...YES	
.0000							MassMutual Solutions LLC	..DE	.....NIA	MassMutual International LLC	Ownership	100.000	MMLIC		
.0000							Haven Technologies Asia Limited	..HKG	.....NIA	MassMutual Solutions LLC	Ownership	100.000	MMLIC		
.0000							Yunfeng Financial Group Limited	..HKG	.....NIA	MassMutual International LLC	Ownership	24.900	MMLIC		
.0000							MassMutual Asia Limited (SPV)	..HKG	.....NIA	MassMutual International LLC	Ownership	100.000	MMLIC		

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

SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi-ciliary Location	Relation-ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Owner-ship Provide Percen-tage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Re-quired? (Yes/No)	*
. 0000	27-3576835 ..	.....	.....	.....	MassMutual External Benefits Group LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000	5301 Wisconsin Avenue Associates, LLC .....	.. DC.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..99.000	MMLIC .....	.....	.....
. 0000	5301 Wisconsin Avenue GP, LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	100 w. 3rd Street LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000	82-2432216 ..	.....	.....	.....	300 South Tryon Hotel LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	300 South Tryon LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000	Almack Mezzanine Fund II Unleveraged LP .....	.. GBR.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence .....	..72.900	MMLIC .....	.....	.....
. 0000	Barings Affordable Housing Mortgage Fund I LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000	Barings Affordable Housing Mortgage Fund I LLC .....	.. DE.....	.. NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000	61-1902329 ..	.....	.....	.....	Barings Affordable Housing Mortgage Fund II LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000	61-1902329 ..	.....	.....	.....	Barings Affordable Housing Mortgage Fund II LLC .....	.. DE.....	.. NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000	85-3036663 ..	.....	.....	.....	Barings Affordable Housing Mortgage Fund III LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..100.000	MMLIC .....	.....	.....
. 0000	85-3036663 ..	.....	.....	.....	Barings Affordable Housing Mortgage Fund III LLC .....	.. DE.....	.. NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000	Barings Emerging Generation Fund II LP .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..39.700	MMLIC .....	.....	.....
. 0000	84-3784245 ..	.....	.....	.....	Barings Emerging Generation Fund, LP .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..38.000	MMLIC .....	.....	.....
. 0000	84-3784245 ..	.....	.....	.....	Barings Emerging Generation Fund, LP .....	.. DE.....	.. NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000	Barings Emerging Markets Corporate Bond Fund .....	.. IRL.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence .....	.....	MMLIC .....	.....	.....
. 0000	Barings Emerging Markets Corporate Bond Fund .....	.. IRL.....	.. NIA.....	Barings LLC	Ownership.....	..44.800	MMLIC .....	.....	.....
. 0000	Barings Hotel Opportunity Venture I LP .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence .....	..65.000	MMLIC .....	.....	.....
. 0000	Barings Hotel Opportunity Venture I LP .....	.. DE.....	.. NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000	85-3449260 ..	.....	.....	.....	Barings Real Estate Debt Income Fund LP .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence .....	..76.600	MMLIC .....	.....	.....
. 0000	85-3449260 ..	.....	.....	.....	Barings Real Estate Debt Income Fund LP .....	.. DE.....	.. NIA.....	C.M. Life Insurance Company	Influence.....	.....	MMLIC .....	.....	.....
. 0000	85-3449260 ..	.....	.....	.....	Barings Real Estate Debt Income Fund LP .....	.. DE.....	.. NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000	Barings Real Estate European Value Add I SCSp .....	.. GBR.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence .....	..42.100	MMLIC .....	.....	.....
. 0000	Barings Real Estate European Value Add I SCSp .....	.. GBR.....	.. NIA.....	C.M. Life Insurance Company	Ownership.....	..4.700	MMLIC .....	.....	.....
. 0000	Barings Real Estate European Value Add I SCSp .....	.. GBR.....	.. NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000	Barings Small Business Fund, L.P. ....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	..33.600	MMLIC .....	.....	.....
. 0000	Barings-MM Revolver Fund LP .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence .....	..86.000	MMLIC .....	.....	.....

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

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

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. 0000 ...							Barings-MM Revolver Fund LP DE.....	.. NIA.....	MM Ascend	Ownership/Influence 14.000	MMLIC		
. 0000 ...			45-2632610 ..				Cornerstone Permanent Mortgage Fund LLC .....	.. MA.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000	MMLIC		
. 0000 ...			45-2632610 ..				Cornerstone Permanent Mortgage Fund LLC .....	.. MA.....	.. NIA.....	Barings LLC	Management.....		MMLIC		
. 0000 ...							CREA Ridge Apartments, LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000	MMLIC		
. 0000 ...							London Office JV Holdings LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000	MMLIC		
. 0000 ...							Riverwalk MM Member, LLC .....	.. DE.....	.. NIA.....	Company	Ownership.....	.. 100.000	MMLIC		
. 0000 ...			83-0560183 ..				Aland Royalty Holdings LP .....	.. DE.....	.. NIA.....	MassMutual Holding LLC	Ownership/Influence .....	.. 26.690	MMLIC		
. 0000 ...			83-0560183 ..				Aland Royalty Holdings LP .....	.. DE.....	.. NIA.....	Barings LLC	Management.....		MMLIC		
. 0000 ...			81-2244465 ..				Chassis Acquisition Holding LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence .....	.. 30.000	MMLIC		
. 0000 ...			81-4258759 ..				CRA Aircraft Holding LLC .....	.. DE.....	.. NIA.....	Company	Ownership/Influence .....	.. 40.000	MMLIC		
. 0000 ...			81-4258759 ..				CRA Aircraft Holding LLC .....	.. DE.....	.. NIA.....	Barings LLC	Influence.....		MMLIC		
. 0000 ...							EIP Holdings I, LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence .....	.. 29.000	MMLIC		
. 0000 ...			46-5460309 ..				Red Lake Ventures, LLC .....	.. DE.....	.. NIA.....	Company	Ownership/Influence .....	.. 31.520	MMLIC		
. 0000 ...			46-5460309 ..				Red Lake Ventures, LLC .....	.. DE.....	.. NIA.....	Barings LLC	Influence.....		MMLIC		
. 0000 ...			46-0687392 ..				Validus Holding Company LLC .....	.. DE.....	.. NIA.....	Barings LLC	Ownership.....	.. 40.440	MMLIC		
. 0000 ...							VGS Acquisition Holding, LLC .....	.. DE.....	.. NIA.....	MassMutual Holding LLC	Ownership/Influence .....	.. 33.300	MMLIC		
. 0000 ...							VGS Acquisition Holding, LLC .....	.. DE.....	.. NIA.....	Barings LLC	Management.....		MMLIC		
. 0000 ...			04-1590850 ..				SBNP SIA II LLC .....	.. DE.....	.. NIA.....	Barings LLC	Ownership.....	.. 100.000	MMLIC		
. 0000 ...							SBNP SIA III LLC .....	.. DE.....	.. NIA.....	Barings LLC	Ownership.....	.. 100.000	MMLIC		
. 0000 ...							Barings European Real Estate Debt Income Fund .....	.. LUX.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence .....	.. 55.800	MMLIC		
. 0000 ...							Barings European Real Estate Debt Income Fund .....	.. LUX.....	.. NIA.....	Barings LLC	Influence.....		MMLIC		
. 0000 ...			37-1506417 ..				Babson Capital Loan Strategies Fund, L.P. ....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence .....	.. 76.634	MMLIC		
. 0000 ...			37-1506417 ..				Babson Capital Loan Strategies Fund, L.P. ....	.. DE.....	.. NIA.....	C.M. Life Insurance Company	Ownership.....	.. 3.800	MMLIC		
. 0000 ...			37-1506417 ..				Babson Capital Loan Strategies Fund, L.P. ....	.. DE.....	.. NIA.....	Barings LLC	Management.....		MMLIC		
. 0000 ...							Barings US High Yield Bond Fund .....	.. IRL.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence .....	.. 0.200	MMLIC		
. 0000 ...							Barings US High Yield Bond Fund .....	.. IRL.....	.. NIA.....	Barings LLC	Management.....		MMLIC		
. 0000 ...							Babson CLO Ltd. 2015-I .....	.. CYM.....	.. NIA.....	Barings LLC	Influence.....		MMLIC		2
. 0000 ...							Babson CLO Ltd. 2015-II .....	.. CYM.....	.. NIA.....	Barings LLC	Influence.....		MMLIC		3
. 0000 ...							Babson CLO Ltd. 2016-I .....	.. CYM.....	.. NIA.....	Barings LLC	Influence.....		MMLIC		
. 0000 ...							Babson CLO Ltd. 2016-II .....	.. CYM.....	.. NIA.....	Barings LLC	Influence.....		MMLIC		
. 0000 ...							Barings CLO Ltd. 2017-I .....	.. CYM.....	.. NIA.....	Barings LLC	Influence.....		MMLIC		
. 0000 ...							Barings CLO 2018-III .....	.. CYM.....	.. NIA.....	Barings LLC	Influence.....		MMLIC		
. 0000 ...							Barings CLO 2018-IV .....	.. CYM.....	.. NIA.....	Barings LLC	Influence.....		MMLIC		
. 0000 ...			98-1473665 ..				Barings CLO 2019-II .....	.. CYM.....	.. NIA.....	Barings LLC	Influence.....		MMLIC		
. 0000 ...							Barings CLO 2019-III .....	.. CYM.....	.. NIA.....	Barings LLC	Influence.....		MMLIC		
. 0000 ...							Barings CLO 2019-IV .....	.. CYM.....	.. NIA.....	Barings LLC	Influence.....		MMLIC		
. 0000 ...							Barings CLO 2020-I .....	.. CYM.....	.. NIA.....	Barings LLC	Influence.....		MMLIC		
. 0000 ...							Barings CLO 2020-II CYM.....	.. NIA.....	Barings LLC	Influence.....		MMLIC		
. 0000 ...							Barings CLO 2020-III CYM.....	.. NIA.....	Barings LLC	Influence.....		MMLIC		

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SCHEDULE Y
PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

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Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi- ciliary Loca- tion	Rela- tion- ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)					
.0000							Barings CLO 2020-IV	.CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2021-I	.CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2021-II	.CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings CLO 2021-III	.CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Babson Euro CLO 2014-I BV	.NLD	NIA	Barings LLC	Influence		MMLIC		
.0000							Babson Euro CLO 2014-II BV	.NLD	NIA	Barings LLC	Influence		MMLIC		
.0000							Babson Euro CLO 2015-I BV	.NLD	NIA	Barings LLC	Influence		MMLIC		
.0000			36-037260H				Barings Euro CLO 2019-I BV	.IRL	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Euro CLO 2019-II BV	.IRL	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Euro CLO 2020-I DAC	.IRL	NIA	Barings LLC	Influence		MMLIC		
.0000			37-15576VH				Barings Euro CLO 2021-I DAC	.IRL	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Euro CLO 2021-II DAC	.IRL	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Euro CLO 2021-III DAC	.IRL	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Euro CLO 2022-I DAC	.IRL	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Euro CLO 2023-II DAC	.IRL	NIA	Barings LLC	Influence		MMLIC		
.0000			82-5330194				Barings Global Em. Markets Equity Fund	.NC	NIA	Barings LLC	Management		MMLIC		
.0000			98-1332384				Barings Global Energy Infrastructure Fund I LP	.CYM	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	99.200	MMLIC		
.0000							Barings Global Special Situations Credit 4 Delaware	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	67.600	MMLIC		
.0000							Barings Global Special Situations Credit 4 Delaware	.DE	NIA	C.M. Life Insurance Company	Ownership	3.600	MMLIC		
.0000							Barings Global Special Situations Credit 4 Delaware	.DE	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Global Special Situations Credit 4 LUX	.LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership	13.200	MMLIC		
.0000							Barings Global Special Situations Credit 4 LUX	.LUX	NIA	C.M. Life Insurance Company	Ownership	0.700	MMLIC		
.0000							Barings Global Special Situations Credit 4 LUX	.LUX	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Global Technology Equity Fund	.IRL	NIA	Barings LLC	Ownership/Influence	71.620	MMLIC		
.0000							Barings Global Dividends Champion Fund	.IRL	NIA	Barings LLC	Management		MMLIC		
.0000							Barings Europe Select Fund	.IRL	NIA	Barings LLC	Management		MMLIC		
.0000			87-0977058				Barings Hotel Opportunity Venture	.CT	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	50.600	MMLIC		
.0000			87-0977058				Barings Hotel Opportunity Venture	.CT	NIA	Barings LLC	Management		MMLIC		
.0000			86-3661023				Barings Innovations & Growth Real Estate Fund	.DE	NIA	Massachusetts Mutual Life Insurance Company	Ownership	29.700	MMLIC		
.0000			86-3661023				Barings Innovations & Growth Real Estate Fund	.DE	NIA	C.M. Life Insurance Company	Ownership	0.400	MMLIC		
.0000							Barings Middle Market CLO 2017-I Ltd & LLC	.CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Middle Market CLO 2018-I	.CYM	NIA	Barings LLC	Influence		MMLIC		
.0000							Barings Middle Market CLO 2019-I	.CYM	NIA	Barings LLC	Influence		MMLIC		
.0000			98-1612604				Barings Middle Market CLO Ltd 2021-I	.CYM	NIA	Barings LLC	Influence		MMLIC		
.0000										Massachusetts Mutual Life Insurance Company					
.0000			98-1332384				Barings RE Credit Strategies VII LP	.DE	NIA		Ownership/Influence	34.400	MMLIC		
.0000			98-1332384				Barings RE Credit Strategies VII LP	.DE	NIA	Baring Asset Management Limited	Management		MMLIC		
.0000			98-1567942				Barings Target Yield Infrastructure Debt Fund	.LUX	NIA	Massachusetts Mutual Life Insurance Company	Ownership	21.300	MMLIC		

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SCHEDULE Y
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. 0000	98-1567942	Barings Target Yield Infrastructure Debt FundLUX.....	..NIA.....	Baring Asset Management Limited	Management.....	MMLIC
. 0000	81-0841854 ..	.....	.....	.....	Barings CLO Investment Partners LP .....	..DE.....	..NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	100.000	MMLIC .....	.....	.....
. 0000	81-0841854 ..	.....	.....	.....	Barings CLO Investment Partners LP .....	..DE.....	..NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000	Barings Euro Value Add II (BREEVA II) .....	..LUX.....	..NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	30.500	MMLIC .....	.....	.....
. 0000	Barings Euro Value Add II (BREEVA II) .....	..LUX.....	..NIA.....	C.M. Life Insurance Company	Ownership.....	2.700	MMLIC .....	.....	.....
. 0000	Barings Euro Value Add II (BREEVA II) .....	..LUX.....	..NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000	87-1262754 ..	.....	.....	.....	Barings Transportation Fund LP .....	..DE.....	..NIA.....	MassMutual Holding LLC	Ownership/Influence	11.200	MMLIC .....	.....	.....
. 0000	87-1262754 ..	.....	.....	.....	Barings Transportation Fund LP .....	..DE.....	..NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	8.200	MMLIC .....	.....	.....
. 0000	Braemar Energy Ventures I, L.P. ....	..DE.....	..NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	63.600	MMLIC .....	.....	.....
. 0000	Braemar Energy Ventures I, L.P. ....	..DE.....	..NIA.....	C.M. Life Insurance Company	Ownership.....	1.100	MMLIC .....	.....	.....
. 0000	Braemar Energy Ventures I, L.P. ....	..DE.....	..NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000	Barings European Core Property Fund SCSp .....	..LUX.....	..NIA.....	MassMutual Holding LLC	Ownership/Influence	9.000	MMLIC .....	.....	.....
. 0000	Barings European Core Property Fund SCSp .....	..LUX.....	..NIA.....	C.M. Life Insurance Company	Ownership.....	0.600	MMLIC .....	.....	.....
. 0000	Barings European Core Property Fund SCSp .....	..LUX.....	..NIA.....	Barings Real Estate Advisers LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000	46-5001122 ..	.....	.....	.....	Barings European Private Loan Fund III A .....	..LUX.....	..NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	44.600	MMLIC .....	.....	.....
. 0000	38-4059932 ..	.....	.....	.....	Benchmark 2018-B2 Mortgage Trust .....	..NY.....	..NIA.....	Barings LLC	Influence.....	.....	MMLIC .....	.....	.....
. 0000	Benchmark 2018-B4 .....	..NY.....	..NIA.....	Barings LLC	Influence.....	.....	MMLIC .....	.....	.....
. 0000	38-4096530 ..	.....	.....	.....	Benchmark 2018-B8 .....	..NY.....	..NIA.....	Barings LLC	Influence.....	.....	MMLIC .....	.....	.....
. 0000	20-5578089 ..	.....	.....	.....	Barings Core Property Fund LP .....	..DE.....	..NIA.....	MassMutual Holding LLC	Ownership/Influence	24.000	MMLIC .....	.....	.....
. 0000	20-5578089 ..	.....	.....	.....	Barings Core Property Fund LP .....	..DE.....	..NIA.....	Barings Real Estate Advisers LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	DPI Acres Capital SPV LLC .....	..DE.....	..NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	DPI-ARES Mortgage Lending SPV, LLC .....	..DE.....	..NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000	MMLIC .....	.....	.....
. 0000	E2E Affordable Housing Debt Fund LLC .....	..DE.....	..NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	100.000	MMLIC .....	.....	.....
. 0000	37-1708623 ..	.....	.....	.....	Great Lakes III, L.P. ....	..DE.....	..NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	41.500	MMLIC .....	.....	.....
. 0000	37-1708623 ..	.....	.....	.....	Great Lakes III, L.P. ....	..DE.....	..NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000	98-1607033 ..	.....	.....	.....	GIA EU Holdings - Emerson JV Sarl .....	..LUX.....	..NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	100.000	MMLIC .....	.....	.....
. 0000	98-1607033 ..	.....	.....	.....	GIA EU Holdings - Emerson JV Sarl .....	..LUX.....	..NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000	JPMCC Commercial Mortgage Securities Trust 2017-JP7 .....	..NY.....	..NIA.....	Barings LLC	Influence.....	.....	MMLIC .....	.....	.....
. 0000	38-4041011 ..	.....	.....	.....	JPMDB Commercial Mortgage Securities Trust 2017-C5 .....	..NY.....	..NIA.....	Barings LLC	Influence.....	.....	MMLIC .....	.....	.....
. 0000	Martello Re Limited .....	..BMJ.....	..NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence	27.450	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	Miami Douglas Three MM, LLC .....	..DE.....	..NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000	MMLIC .....	.....	.....
. 0000	87-4021641 ..	.....	.....	.....	MM BIG Peninsula Co-Invest Member LLC .....	..DE.....	..NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	27.000	MMLIC .....	.....	.....
. 0000	87-4021641 ..	.....	.....	.....	MM BIG Peninsula Co-Invest Member LLC .....	..DE.....	..NIA.....	C.M. Life Insurance Company	Ownership.....	0.800	MMLIC .....	.....	.....
. 0000	04-1590850	MM Direct Private Invetment HoldingDE.....	..NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000	MMLIC

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. 0000	MM CM Holding LLC DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000	MMLIC
. 0000	81-3000420 ..	.....	.....	.....	MM Debt Participations LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence .....	.. 100.000	MMLIC .....	.....	.....
. 0000	81-3000420 ..	.....	.....	.....	MM Debt Participations LLC .....	.. DE.....	.. NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	MM MD1 Station Member LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 47.000	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	MM MD1 Station Member LLC .....	.. DE.....	.. NIA.....	C.M. Life Insurance Company	Ownership.....	.. 3.100	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	MM MD2 Station Member LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 47.000	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	MM MD2 Station Member LLC .....	.. DE.....	.. NIA.....	C.M. Life Insurance Company	Ownership.....	.. 3.100	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	MMV Climate Technology Fund GP .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 99.000	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	MMV Climate Technology Fund GP .....	.. DE.....	.. NIA.....	Massachusetts Mutual Ascend	Ownership.....	.. 1.000	MMLIC .....	.....	.....
. 0000	MM REED District Landco Member LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	MM Subline Borrower LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	Washington Pine LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000	MMLIC .....	.....	.....
. 0000	35-2553915 ..	.....	.....	.....	Ten Fan Pier Boulevard LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000	MMLIC .....	.....	.....
. 0000	41-2280127 ..	.....	.....	.....	Tower Square Capital Partners III, L.P. ....	.. DE.....	.. NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000	41-2280127 ..	.....	.....	.....	Tower Square Capital Partners III, L.P. ....	.. DE.....	.. NIA.....	MassMutual Holding LLC	Ownership/Influence .....	.. 17.600	MMLIC .....	.....	.....
. 0000	41-2280129 ..	.....	.....	.....	Tower Square Capital Partners IIIA, L.P. ....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership/Influence .....	.. 100.000	MMLIC .....	.....	.....
. 0000	41-2280129 ..	.....	.....	.....	Tower Square Capital Partners IIIA, L.P. ....	.. DE.....	.. NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	Trailside MM Member LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 66.970	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	Trailside MM Member LLC .....	.. DE.....	.. NIA.....	C.M. Life Insurance Company	Ownership.....	.. 7.380	MMLIC .....	.....	.....
. 0000	83-1325764 ..	.....	.....	.....	Washington Gateway Two LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 95.800	MMLIC .....	.....	.....
. 0000	83-1325764 ..	.....	.....	.....	Washington Gateway Two LLC .....	.. DE.....	.. NIA.....	C.M. Life Insurance Company	Ownership.....	.. 4.200	MMLIC .....	.....	.....
. 0000	32-0574045 ..	.....	.....	.....	Washington Gateway Three LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 95.230	MMLIC .....	.....	.....
. 0000	MALIC Debt Participations LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000	MMLIC .....	.....	.....
. 0000	Babson Capital Loan Strategies Master Fund LP .....	.. CYM.....	.. NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000	Barings China Aggregate Bond Private Securities Investment Fund .....	.. CHN.....	.. NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000	47-3790192 ..	.....	.....	.....	Barings Global High Yield Fund .....	.. MA.....	.. NIA.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000	71-1018134 ..	.....	.....	.....	Great Lakes II LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 10.600	MMLIC .....	.....	.....
. 0000	71-1018134 ..	.....	.....	.....	Great Lakes II LLC .....	.. DE.....	.. NIA.....	C.M. Life Insurance Company	Ownership.....	.. 0.980	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	Wood Creek Venture Fund LLC .....	.. DE.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 40.000	MMLIC .....	.....	.....
. 0000	Barings California Mortgage Fund IV .....	.. CA.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 100.000	MMLIC .....	.....	.....
. 0000	Barings Umbrella Fund LUX SCSp SICAV RAIF LUX.....	.. NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	.. 24.959	MMLIC

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Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi- ciliary Loca- tion	Rela- tion- ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)					
. 0000	Barings Umbrella Fund LUX SCSp SICAV RAIF ...	..LUX.....	.....	C.M. Life Insurance Company	Ownership.....	2.300 ...	MMLIC .....	.....	.....
. 0000	82-2285211 ..	.....	.....	.....	Calgary Railway Holding LLC .....	..DE.....	.....	Massachusetts Mutual Life Insurance Company	Ownership.....	90.000 ...	MMLIC .....	.....	.....
. 0000	82-3307907 ..	.....	.....	.....	Cornbrook PRS Holdings LLC .....	..DE.....	.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000	95-4207717 ..	.....	.....	.....	Cornerstone California Mortgage Fund I LLC ..	..CA.....	.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000	95-4207717 ..	.....	.....	.....	Cornerstone California Mortgage Fund II LLC	..CA.....	.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000	95-4207717 ..	.....	.....	.....	Cornerstone California Mortgage Fund III LLC	..CA.....	.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000	56-2630592 ..	.....	.....	.....	Cornerstone Fort Pierce Development LLC .....	..DE.....	.....	Massachusetts Mutual Life Insurance Company	Ownership.....	90.000 ...	MMLIC .....	.....	.....
. 0000	56-2630592 ..	.....	.....	.....	Cornerstone Fort Pierce Development LLC .....	..DE.....	.....	C.M. Life Insurance Company	Ownership.....	5.900 ...	MMLIC .....	.....	.....
. 0000	61-1750537 ..	.....	.....	.....	Cornerstone Permanent Mortgage Fund II .....	..MA.....	.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000	61-1750537 ..	.....	.....	.....	Cornerstone Permanent Mortgage Fund II .....	..MA.....	.....	Barings LLC	Management.....	.....	MMLIC .....	.....	.....
. 0000	Cornerstone Permanent Mortgage Fund III LLC	..MA.....	.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000	61-1793735 ..	.....	.....	.....	Cornerstone Permanent Mortgage Fund IV .....	..MA.....	.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000	20-0348173 ..	.....	.....	.....	CREA/PPC Venture LLC .....	..DE.....	.....	Massachusetts Mutual Life Insurance Company	Ownership.....	28.520 ...	MMLIC .....	.....	.....
. 0000	82-2783393 ..	.....	.....	.....	Danville Riverwalk Venture, LLC .....	..DE.....	.....	Massachusetts Mutual Life Insurance Company	Ownership.....	94.400 ...	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	Euro Real Estate Holdings LLC .....	..DE.....	.....	Massachusetts Mutual Life Insurance Company	Ownership.....	50.000 ...	MMLIC .....	.....	.....
. 0000	20-3347091 ..	.....	.....	.....	Fan Pier Development LLC .....	..DE.....	.....	Massachusetts Mutual Life Insurance Company	Ownership.....	65.000 ...	MMLIC .....	.....	.....
. 0000	20-3347091 ..	.....	.....	.....	Fan Pier Development LLC .....	..DE.....	.....	C.M. Life Insurance Company	Ownership.....	5.850 ...	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	GIA EU Holdings LLC .....	..DE.....	.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000	81-5360103 ..	.....	.....	.....	Landmark Manchester Holdings LLC .....	..DE.....	.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000	13-1935920 ..	.....	.....	.....	MMLIC Debt Participations LLC .....	..DE.....	.....	Massachusetts Mutual Ascend	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	MM Brookhaven Member LLC .....	..DE.....	.....	Massachusetts Mutual Life Insurance Company	Ownership.....	95.000 ...	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	MM Ascend Mtg. Lending LLC .....	..DE.....	.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	MM Kannapolis Industrial Member LLC .....	..DE.....	.....	Massachusetts Mutual Life Insurance Company	Ownership.....	82.720 ...	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	MM Kannapolis Industrial Member LLC .....	..DE.....	.....	Massachusetts Mutual Ascend	Ownership.....	12.280 ...	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	MM East South Crossing Member LLC .....	..DE.....	.....	Massachusetts Mutual Life Insurance Company	Ownership.....	95.000 ...	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	MM Horizon Savannah Member LLC .....	..DE.....	.....	Massachusetts Mutual Life Insurance Company	Ownership.....	95.000 ...	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	MM Horizon Savannah Member LLC .....	..DE.....	.....	C.M. Life Insurance Company	Ownership.....	3.700 ...	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	MM National Self-Storage Program Member LLC	..DE.....	.....	C.M. Life Insurance Company	Ownership.....	98.000 ...	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	MM 1400 E 4th Street Member LLC .....	..DE.....	.....	C.M. Life Insurance Company	Ownership.....	96.000 ...	MMLIC .....	.....	.....
. 0000	80-0948028 ..	.....	.....	.....	One Harbor Shore LLC .....	..DE.....	.....	Massachusetts Mutual Life Insurance Company	Ownership.....	94.990 ...	MMLIC .....	.....	.....
. 0000	80-0948028	One Harbor Shore LLCDE.....	C.M. Life Insurance Company	Ownership.....	4.010 ...	MMLIC

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. 0000	04-1590850	Paco France Logistics LLC DE..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000	MMLIC
. 0000	Salomon Brothers Commercial Mortgage Trust 2001-MM .....	.. DE.....	..... NIA.....	Barings Real Estate Advisers LLC	Influence.....	.....	MMLIC .....	.....	.....
. 0000	81-5273574 ..	.....	.....	.....	Three PW Office Holding LLC .....	.. DE.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	95.100	MMLIC .....	.....	.....
. 0000	04-1590850 ..	.....	.....	.....	Trailside MM Member II LLC .....	.. DE.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	47.100	MMLIC .....	.....	.....
. 0000	82-3250684 ..	.....	.....	.....	Unna, Dortmund Holding LLC .....	.. DE.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000	MMLIC .....	.....	.....
. 0000	45-5401109 ..	.....	.....	.....	Washington Gateway Apartments Venture LLC ...	.. DE.....	..... NIA.....	Company	Ownership.....	95.440	MMLIC .....	.....	.....
. 0000	45-5401109 ..	.....	.....	.....	Washington Gateway Apartments Venture LLC ...	.. DE.....	..... NIA.....	C.M. Life Insurance Company	Ownership.....	4.560	MMLIC .....	.....	.....
. 0000	88-3861481 ..	.....	.....	.....	West 37th Street Hotel LLC .....	.. DE.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	93.800	MMLIC .....	.....	.....
. 0000	88-3861481 ..	.....	.....	.....	West 37th Street Hotel LLC .....	.. DE.....	..... NIA.....	C.M. Life Insurance Company	Ownership.....	6.200	MMLIC .....	.....	.....
. 0000	51-0529328 ..	.....	0000927972 ..	OQ	MassMutual Premier Main Street Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	89.370	MMLIC .....	.....	.....
. 0000	26-3229251 ..	.....	0000927972 ..	OQ	MassMutual Premier Strategic Emerging Markets Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	60.573	MMLIC .....	.....	.....
. 0000	04-3512593 ..	.....	0000916053 ..	OQ	MassMutual Select Fundamental Growth Fund ...	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	5.210	MMLIC .....	.....	.....
. 0000	42-1710935 ..	.....	0000916053 ..	OQ	MassMutual Select Mid-Cap Value Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	29.861	MMLIC .....	.....	.....
. 0000	02-0769954 ..	.....	0000916053 ..	OQ	MassMutual Select Small Capital Value Equity Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	.....	MMLIC .....	.....	.....
. 0000	04-3584140 ..	.....	0000916053 ..	OQ	MassMutual Select Small Company Value Fund ..	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	18.034	MMLIC .....	.....	.....
. 0000	82-3347422 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2005 Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	5.299	MMLIC .....	.....	.....
. 0000	82-3355639 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2010 Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	.....	MMLIC .....	.....	.....
. 0000	82-3382389 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2015 Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	.....	MMLIC .....	.....	.....
. 0000	82-3396442 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2020 Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	.....	MMLIC .....	.....	.....
. 0000	82-3417420 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2025 Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	.....	MMLIC .....	.....	.....
. 0000	82-3430358 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2030 Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	.....	MMLIC .....	.....	.....
. 0000	82-3439837 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2035 Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	.....	MMLIC .....	.....	.....
. 0000	82-3451779 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2040 Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	.....	MMLIC .....	.....	.....
. 0000	82-3472295 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2045 Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	.....	MMLIC .....	.....	.....
. 0000	82-3481715 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2050 Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	.....	MMLIC .....	.....	.....
. 0000	82-3502011 ..	.....	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2055 Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	.....	MMLIC .....	.....	.....
. 0000	82-3525148	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement 2060 Fund MA..... NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	MMLIC

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. 0000	82-3533944	0000916053 ..	OQ	MassMutual Select T. Rowe Price Retirement Balanced Fund MA..... NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	MMLIC
. 0000	46-4257056 ..	.....	.....	.....	MML Series International Equity Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	100.000 ..	MMLIC .....	.....	.....
. 0000	47-3529636 ..	.....	.....	.....	MML Series II Dynamic Bond Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	.....	MMLIC .....	.....	.....
. 0000	47-3544629 ..	.....	.....	.....	MML Series II Equity Rotation Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	95.822 ..	MMLIC .....	.....	.....
. 0000	27-1933389 ..	.....	0000916053 ..	OQ	MassMutual RetireSMART 2035 Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	3.322 ..	MMLIC .....	.....	.....
. 0000	27-1932769 ..	.....	0000916053 ..	OQ	MassMutual RetireSMART 2045 Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	7.445 ..	MMLIC .....	.....	.....
. 0000	46-3289207 ..	.....	0000916053 ..	OQ	MassMutual RetireSMART 2055 Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	21.036 ..	MMLIC .....	.....	.....
. 0000	47-5326235 ..	.....	0000916053 ..	OQ	MassMutual RetireSMART 2060 Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	37.927 ..	MMLIC .....	.....	.....
. 0000	45-1618155 ..	.....	0000916053 ..	OQ	MassMutual 20/80 Allocation Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	100.000 ..	MMLIC .....	.....	.....
. 0000	45-1618222 ..	.....	0000916053 ..	OQ	MassMutual 80/20 Allocation Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	39.767 ..	MMLIC .....	.....	.....
. 0000	03-0532464 ..	.....	0000916053 ..	OQ	MassMutual RetireSMART In Retirement Fund ...	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	8.822 ..	MMLIC .....	.....	.....
. 0000	45-1618262 ..	.....	0000916053 ..	OQ	MassMutual 40/60 Allocation Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Influence.....	100.000 ..	MMLIC .....	.....	.....
. 0000	45-1618046 ..	.....	0000916053 ..	OQ	MassMutual 60/40 Allocation Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ..	MMLIC .....	.....	.....
. 0000	45-1618046 ..	.....	0000916053 ..	OQ	MassMutual ishares 60/40 Allocation Fund ...	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	65.759 ..	MMLIC .....	.....	.....
. 0000	04-3212054 ..	.....	0000916053 ..	OQ	MassMutual Balanced Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ..	MMLIC .....	.....	.....
. 0000	04-3556992 ..	.....	0000916053 ..	OQ	MassMutual Blue Chip Growth Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ..	MMLIC .....	.....	.....
. 0000	04-3277549 ..	.....	0000916053 ..	OQ	MassMutual Core Bond Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ..	MMLIC .....	.....	.....
. 0000	04-3539084 ..	.....	0000916053 ..	OQ	MassMutual Disciplined Growth Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ..	MMLIC .....	.....	.....
. 0000	04-3539083 ..	.....	0000916053 ..	OQ	MassMutual Disciplined Value Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ..	MMLIC .....	.....	.....
. 0000	01-0821120 ..	.....	0000916053 ..	OQ	MassMutual Diversified Value Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ..	MMLIC .....	.....	.....
. 0000	04-3512590 ..	.....	0000916053 ..	OQ	MassMutual Equity Opportunities Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ..	MMLIC .....	.....	.....
. 0000	04-3512589 ..	.....	0000916053 ..	OQ	MassMutual Growth Opportunities Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ..	MMLIC .....	.....	.....
. 0000	03-0532475 ..	.....	0000916053 ..	OQ	MassMutual Inflation-Protected and Income Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ..	MMLIC .....	.....	.....
. 0000	04-3512596 ..	.....	0000916053 ..	OQ	MassMutual Mid Cap Growth Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ..	MMLIC .....	.....	.....
. 0000	04-3464165 ..	.....	0000916053 ..	OQ	MassMutual Premier Diversified Bond Fund ....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ..	MMLIC .....	.....	.....
. 0000	92-1441036	0000916053 ..	OQ	MassMutual RetireSMART by JPMorgan 2065 Fund	.. MA..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ..	MMLIC

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PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Group Code	Group Name	NAIC Company Code	ID Number	Federal RSSD	CIK	Name of Securities Exchange if Publicly Traded (U.S. or International)	Names of Parent, Subsidiaries Or Affiliates	Domi-ciliary Loca-tion	Relation-ship to Reporting Entity	Directly Controlled by (Name of Entity/Person)	Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other)	If Control is Owner-ship Provide Percen-tage	Ultimate Controlling Entity(ies)/Person(s)	Is an SCA Filing Re-quired? (Yes/No)	*
. 0000	45-1618222 ..	.....	0000916053 ..	OQ	MassMutual Select 80/20 Allocation Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000	04-3584138 ..	.....	0000916053 ..	OQ	MassMutual Select Fundamental Value Fund ...	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000	04-3557000 ..	.....	0000916053 ..	OQ	MassMutual Select Overseas Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000	92-1427882 ..	.....	0000916053 ..	OQ	MassMutual Select T Rowe Price Retirement 2065 Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	53.460 ...	MMLIC .....	.....	.....
. 0000	04-3464205 ..	.....	0000916053 ..	OQ	MassMutual Small Cap Growth Equity Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000	04-3424705 ..	.....	0000916053 ..	OQ	MassMutual Small Cap Opportunities Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000	02-0769954 ..	.....	0000916053 ..	OQ	MassMutual Small Cap Value Equity Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....
. 0000	26-0099965 ..	.....	0000916053 ..	OQ	MassMutual Strategic Bond Fund .....	.. MA.....	..... NIA.....	Massachusetts Mutual Life Insurance Company	Ownership.....	100.000 ...	MMLIC .....	.....	.....

Asterisk	Explanation
1	Massachusetts Mutual Life Insurance Company owns 14.23% of the affiliated debt of Jefferies Finance LLC
2	Debt investors own .5% and includes only Great Lakes III, L.P.
3	Debt investors own .2% and includes only Great Lakes III, L.P.

SCHEDULE Y

PART 2 - SUMMARY OF INSURER'S TRANSACTIONS WITH ANY AFFILIATES

1	2	3	4	5	6	7	8	9	10	11	12	13
NAIC Company Code	ID Number	Names of Insurers and Parent, Subsidiaries or Affiliates	Shareholder Dividends	Capital Contributions	Purchases, Sales or Exchanges of Loans, Securities, Real Estate, Mortgage Loans or Other Investments	Income/ (Disbursements) Incurred in Connection with Guarantees or Undertakings for the Benefit of any Affiliate(s)	Management Agreements and Service Contracts	Income/ (Disbursements) Incurred Under Reinsurance Agreements	*	Any Other Material Activity Not in the Ordinary Course of the Insurer's Business	Totals	Reinsurance Recoverable/ (Payable) on Losses and/or Reserve Credit Taken/(Liability)
65935	04-1590850	Massachusetts Mutual Life Insurance Company (MMLIC)	1,424,064,026	(796,316,594)	(681,836,705)					(4,671,563,564)	(4,725,652,837)	(65,401,858)
93432	06-1041383	C.M. Life Insurance Company	26,605,997	(4,805,169)	50,000,000						71,800,828	23,840,098
70416	43-0581430	MML Bay State Life Insurance Company	(25,000,000)								(25,000,000)	16,650,111
63312	13-1935920	MassMutual Ascend Life Insurance Company	(200,000,000)	(700,000)							(200,700,000)	
	04-1590850	2160 Grand Manager LLC		7,820,505							7,820,505	
		Barings Investment Series LLC		(126,099)							(126,099)	
		Barings Affordable Housing Mortgage Fund I LLC	(3,502,953)	(1,046,047)							(4,549,000)	
	61-1902329	Barings Affordable Housing Mortgage Fund II LLC	(5,307,345)	4,543,345							(764,000)	
	85-3036663	Barings Affordable Housing Mortgage Fund III LLC	(1,422,205)	33,599,304							32,177,099	
	36-4868350	Barings Asset-Based Income Fund (US) LP		96,088							96,088	
		Barings California Mortgage Fund IV		29,366,459							29,366,459	
	88-3792609	Barings Centre Street CLO Equity Partnership LP	(5,737,953)	18,017,115							12,279,162	
		Barings CLO 2018-IV		5,389,787							5,389,787	
		Barings CLO 2019-IV		22,132,013							22,132,013	
		Barings CLO 2020-I		10,457,100							10,457,100	
		Barings CLO 2020-II		3,886,198							3,886,198	
		Barings CLO 2020-III		25,377,097							25,377,097	
		Barings CLO 2020-IV		10,840,798							10,840,798	
		Barings CLO 2021-I		7,419,138							7,419,138	
	98-1624360	Barings CLO 2022-I		7,960,000							7,960,000	
		Barings CLO 2022-II		3,813,160							3,813,160	
	81-0841854	Barings CLO Investment Partners LP		(7,169,811)							(7,169,811)	
	84-3784245	Barings Emerging Generation Fund LP	(1,041,862)	23,280,617							22,238,755	
	37-15576VH	Barings Euro CLO 2021-I DAC		4,942,971							4,942,971	
		Barings Euro CLO 2021-III DAC		11,292,696							11,292,696	
		Barings European Core Property Fund SCSp		2,504,024							2,504,024	
	46-5001122	Barings European Private Loan Fund III A	(6,397,425)	3,274,022							(3,123,403)	
		Barings European Real Estate Debt Income Fund	(9,454,921)								(9,454,921)	
	80-0875475	Barings Finance LLC			(539,000,000)						(539,000,000)	
	98-1332384	Barings Global Energy Infrastructure Fund I LP		99,468,189							99,468,189	
	82-3867745	Barings Global Real Assets Fund LP	(304,749)	(1,175,909)							(1,480,658)	
		Barings Global Special Situations Credit 4 Delaware		6,483,090							6,483,090	
		Barings Global Special Situations Credit 4 LUX		2,198,521							2,198,521	
	87-0977058	Barings Hotel Opportunity Venture	(3,175,000)	16,760,000							13,585,000	

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

SCHEDULE Y
PART 2 - SUMMARY OF INSURER’S TRANSACTIONS WITH ANY AFFILIATES

1	2	3	4	5	6	7	8	9	10	11	12	13
NAIC Company Code	ID Number	Names of Insurers and Parent, Subsidiaries or Affiliates	Shareholder Dividends	Capital Contributions	Purchases, Sales or Exchanges of Loans, Securities, Real Estate, Mortgage Loans or Other Investments	Income/ (Disbursements) Incurred in Connection with Guarantees or Undertakings for the Benefit of any Affiliate(s)	Management Agreements and Service Contracts	Income/ (Disbursements) Incurred Under Reinsurance Agreements	*	Any Other Material Activity Not in the Ordinary Course of the Insurer's Business	Totals	Reinsurance Recoverable/ (Payable) on Losses and/or Reserve Credit Taken/(Liability)
	04-1590850	Insurance Road LLC	(181,300,000)	(133,796,757)							(315,096,757)	
		Intermodal Holding II LLC	(42,280)	(173,756)							(216,036)	
		JFIN Revolver Fund, L.P.		1,168,943							1,168,943	
	81-5360103	Landmark Manchester Holdings LLC		4,608,454							4,608,454	
		Martello Re Limited								4,671,563,564	4,671,563,564	
	04-2854319	MassMutual Holding LLC	(730,000,000)	100,705,102							(629,294,898)	
	04-3313782	MassMutual International LLC		13,683,045							13,683,045	
	45-1618046	MassMutual ishares 60/40 Allocation Fund	(370,031)								(370,031)	
		MassMutual Mortgage Lending LLC		94,930,768							94,930,768	
	51-0529328	MassMutual Premier Main Street Fund	(9,252)								(9,252)	
	26-3229251	MassMutual Premier Strategic Emerging Markets Fund	(15)								(15)	
	27-1933389	MassMutual RetireSMART 2035 Fund	(2,472)								(2,472)	
	27-1932769	MassMutual RetireSMART 2045 Fund	(3,309)								(3,309)	
	46-3289207	MassMutual RetireSMART 2055 Fund	(36,689)								(36,689)	
	47-5326235	MassMutual RetireSMART 2060 Fund	(466,228)								(466,228)	
	03-0532464	MassMutual RetireSMART In Retirement Fund										
			(2,565)								(2,565)	
	42-1710935	MassMutual Select Mid-Cap Value Fund	(2,602)								(2,602)	
	04-3584140	MassMutual Select Small Company Value Fund		(2,649)							(2,649)	
	82-3347422	MassMutual Select T. Rowe Price Retirement 2005 Fund	(2,009)								(2,009)	
	04-1590850	MassMutual Venture US IV LP		76,178,711							76,178,711	
	04-1590850	MassMutual Ventures US IV GP		1,237,500							1,237,500	
	04-1590850	Miami Douglas Three MM, LLC		2,593,185							2,593,185	
	04-1590850	MM 1400 E 4th Street Member LLC		277,131							277,131	
	31-1395344	MM Ascend Life Investor Services, LLC		700,000							700,000	
	04-1590850	MM Brookhaven Member LLC		3,291,302							3,291,302	
		MM CM Holding LLC		23,783,302							23,783,302	
	04-1590850	MM Copper Hill Road LLC		2,393,634							2,393,634	
	04-1590850	MM East South Crossing Member LLC		1,034,228							1,034,228	
		MM Investment Holding			1,170,836,705						1,170,836,705	
	04-1590850	MM Kannapolis Industrial Member LLC		23,661,342							23,661,342	
	04-1590850	MM National Self-Storage Program Member LLC	30,173	10,392,632							10,422,805	
	04-1590850	MM Private Equity Intercontinental LLC	(2,897,402)	82,276,892							79,379,490	
	04-1590850	MM Rothesay Holdco US LLC		16,573,927							16,573,927	
	04-1590850	MM Subline Borrower LLC		162,545							162,545	
		MML Investment Advisers, LLC	(47,339,800)								(47,339,800)	
	04-1590850	MML Private Equity Fund Investor LLC	(7,812,922)	(17,165,758)							(24,978,679)	
	47-3544629	MML Series II Equity Rotation Fund	(482,008)								(482,008)	
	04-1590850	MMV Climate Technology Fund GP		6,301,783							6,301,783	
	80-0948028	One Harbor Shore LLC		5,053,528							5,053,528	
	04-1590850	PACO France Logistics LLC		300,362							300,362	

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

SCHEDULE Y
PART 2 - SUMMARY OF INSURER’S TRANSACTIONS WITH ANY AFFILIATES

1	2	3	4	5	6	7	8	9	10	11	12	13
NAIC Company Code	ID Number	Names of Insurers and Parent, Subsidiaries or Affiliates	Shareholder Dividends	Capital Contributions	Purchases, Sales or Exchanges of Loans, Securities, Real Estate, Mortgage Loans or Other Investments	Income/ (Disbursements) Incurred in Connection with Guarantees or Undertakings for the Benefit of any Affiliate(s)	Management Agreements and Service Contracts	Income/ (Disbursements) Incurred Under Reinsurance Agreements	*	Any Other Material Activity Not in the Ordinary Course of the Insurer's Business	Totals	Reinsurance Recoverable/ (Payable) on Losses and/or Reserve Credit Taken/(Liability)
	46-5460309	Red Lake Ventures, LLC		86,667							86,667	
	81-4065378	Remington L & W Holdings LLC		(3,974,291)							(3,974,291)	
		Rothsay Life Plc										24,911,649
		Sleeper Street LLC		97,497,896							97,497,896	
	06-1563535	The MassMutual Trust Company	(4,500,000)								(4,500,000)	
	47-5322979	Timberland Forest Holding LLC		(758,500)							(758,500)	
	41-2280129	Tower Square Capital Partners IIIA, L.P. .		(1,644,192)							(1,644,192)	
	04-1590850	Trailside MM Member II LLC		12,115,620							12,115,620	
	04-1590850	Trailside MM Member LLC		4,180,514							4,180,514	
	82-3250684	Unna, Dortmund Holding LLC	(226,247)	824,562							598,315	
	45-5401109	Washington Gateway Apartments Venture LLC										
			(190,973)	1,104,649							913,676	
	32-0574045	Washington Gateway Three LLC		2,850,000							2,850,000	
	83-1325764	Washington Gateway Two LLC		4,072,069							4,072,069	
	04-1590850	Washington Pine LLC		50,894							50,894	
	88-3861481	West 37th Street Hotel LLC	(2,145,259)	505,007							(1,640,252)	
9999999	Control Totals								XXX			

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

SCHEDULE Y

PART 3 - ULTIMATE CONTROLLING PARTY AND LISTING OF OTHER U.S. INSURANCE GROUPS OR ENTITIES UNDER THAT ULTIMATE CONTROLLING PARTY'S CONTROL

1	2	3	4	5	6	7	8
Insurers in Holding Company	Owners with Greater Than 10% Ownership	Ownership Percentage Column 2 of Column 1	Granted Disclaimer of Control\ Affiliation of Column 2 Over Column 1 (Yes/No)	Ultimate Controlling Party	U.S. Insurance Groups or Entities Controlled by Column 5	Ownership Percentage (Column 5 of Column 6)	Granted Disclaimer of Control\ Affiliation of Column 5 Over Column 6 (Yes/No)
Massachusetts Mutual Life Insurance Company	Massachusetts Mutual Life Insurance Company	100.000	.....NO.....	Massachusetts Mutual Life Insurance Company	Massachusetts Mutual Life Insurance Company	100.000	.....NO.....
C.M. Life Insurance Company	Massachusetts Mutual Life Insurance Company	100.000	.....NO.....	Massachusetts Mutual Life Insurance Company	Massachusetts Mutual Life Insurance Company	100.000	.....NO.....
MML Bay State Life Insurance Company	C.M. Life Insurance Company	100.000	.....NO.....	Massachusetts Mutual Life Insurance Company	Massachusetts Mutual Life Insurance Company	100.000	.....NO.....
MassMutual Ascend Life Insurance Company	Glidepath Holdings Inc.	100.000	.....NO.....	Massachusetts Mutual Life Insurance Company	Massachusetts Mutual Life Insurance Company	100.000	.....NO.....
Annuity Investors Life Insurance Company	MassMutual Ascend Life Insurance Company	100.000	.....NO.....	Massachusetts Mutual Life Insurance Company	Massachusetts Mutual Life Insurance Company	100.000	.....NO.....
Manhattan National Life Insurance Company	Manhattan National Holding LLC	100.000	.....NO.....	Massachusetts Mutual Life Insurance Company	Massachusetts Mutual Life Insurance Company	100.000	.....NO.....

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

SUPPLEMENTAL EXHIBITS AND SCHEDULES INTERROGATORIES

REQUIRED FILINGS

The following supplemental reports are required to be filed as part of your statement filing unless specifically waived by the domiciliary state. However, in the event that your domiciliary state waives the filing requirement, your response of WAIVED to the specific interrogatory will be accepted in lieu of filing a “NONE” report and a bar code will be printed below. If the supplement is required of your company but is not being filed for whatever reason enter SEE EXPLANATION and provide an explanation following the interrogatory questions.

	Responses
MARCH FILING	
1. Will the Supplemental Compensation Exhibit be filed with the state of domicile by March 1?	YES
2. Will the confidential Risk-based Capital Report be filed with the NAIC by March 1?	YES
3. Will the confidential Risk-based Capital Report be filed with the state of domicile, if required, by March 1?	YES
4. Will an actuarial opinion be filed by March 1?	YES
APRIL FILING	
5. Will Management’s Discussion and Analysis be filed by April 1?	YES
6. Will the Life, Health & Annuity Guaranty Association Assessable Premium Exhibit - Parts 1 and 2 be filed with the state of domicile and the NAIC by April 1? (Not applicable to fraternal benefit societies)	YES
7. Will the Supplemental Investment Risks Interrogatories be filed by April 1?	YES
JUNE FILING	
8. Will an audited financial report be filed by June 1?	YES
9. Will Accountant’s Letter of Qualifications be filed with the state of domicile and electronically with the NAIC by June 1?	YES

SUPPLEMENTAL FILINGS

The following supplemental reports are required to be filed as part of your annual statement filing **if your company is engaged in the type of business covered by the supplement. However, in the event that your company does not transact the type of business for which the special report must be filed, your response of NO to the specific interrogatory will be accepted in lieu of filing a “NONE” report and a bar code will be printed below.** If the supplement is required of your company but is not being filed for whatever reason enter SEE EXPLANATION and provide an explanation following the interrogatory questions.

MARCH FILING	
10. Will Schedule SIS (Stockholder Information Supplement) be filed with the state of domicile by March 1? (Not applicable to fraternal benefit societies) ..	NO
11. Will the Medicare Supplement Insurance Experience Exhibit be filed with the state of domicile and the NAIC by March 1?	NO
12. Will the Trusteed Surplus Statement be filed with the state of domicile and the NAIC by March 1?	NO
13. Will the actuarial opinion on participating and non-participating policies as required in Interrogatories 1 and 2 to Exhibit 5 be filed with the state of domicile and electronically with the NAIC by March 1?	NO
14. Will the actuarial opinion on non-guaranteed elements as required in interrogatory #3 to Exhibit 5 be filed with the state of domicile and electronically with the NAIC by March 1?	YES
15. Will the actuarial opinion on X-Factors be filed with the state of domicile and electronically with the NAIC by March 1?	NO
16. Will the actuarial opinion on Separate Accounts Funding Guaranteed Minimum Benefit be filed with the state of domicile and electronically with the NAIC by March 1?	NO
17. Will the actuarial opinion on Synthetic Guaranteed Investment Contracts be filed with the state of domicile and electronically with the NAIC by March 1?	NO
18. Will the Reasonableness of Assumptions Certification required by Actuarial Guideline XXXV be filed with the state of domicile and electronically with the NAIC by March 1?	NO
19. Will the Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXV be filed with the state of domicile and electronically with the NAIC by March 1?	NO
20. Will the Reasonableness of Assumptions Certification for Implied Guaranteed Rate Method required by Actuarial Guideline XXXVI be filed with the state of domicile and electronically with the NAIC by March 1?	NO
21. Will the Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI (Updated Average Market Value) be filed with the state of domicile and electronically with the NAIC by March 1?	NO
22. Will the Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI (Updated Market Value) be filed with the state of domicile and electronically with the NAIC by March 1?	NO
23. Will the C-3 RBC Certifications required under C-3 Phase I be filed with the state of domicile and electronically with the NAIC by March 1?	YES
24. Will the C-3 RBC Certifications required under C-3 Phase II be filed with the state of domicile and electronically with the NAIC by March 1?	YES
25. Will the Actuarial Certifications Related to Annuity Nonforfeiture Ongoing Compliance for Equity Indexed Annuities be filed with the state of domicile and electronically with the NAIC by March 1?	NO

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

SUPPLEMENTAL EXHIBITS AND SCHEDULES INTERROGATORIES

26.	Will the actuarial opinion required by the Modified Guaranteed Annuity Model Regulation be filed with the state of domicile and electronically with the NAIC by March 1?	NO
27.	Will the Actuarial Certification regarding the use of 2001 Preferred Class Tables required by the Model Regulation Permitting the Recognition of Preferred Mortality Tables for Use in Determining Minimum Reserve Liabilities be filed with the state of domicile and electronically with the NAIC by March 1?	NO
28.	Will the Worker's Compensation Carve-Out Supplement be filed by March 1? (Not applicable to fraternal benefit societies)	NO
29.	Will Supplemental Schedule O be filed with the state of domicile and the NAIC by March 1?	NO
30.	Will the Medicare Part D Coverage Supplement be filed with the state of domicile and the NAIC by March 1?	NO
31.	Will an approval from the reporting entity's state of domicile for relief related to the five-year rotation requirement for lead audit partner be filed electronically with the NAIC by March 1?	NO
32.	Will an approval from the reporting entity's state of domicile for relief related to the one-year cooling off period for independent CPA be filed electronically with the NAIC by March 1?	NO
33.	Will an approval from the reporting entity's state of domicile for relief related to the Requirements for Audit Committees be filed electronically with the NAIC by March 1?	NO
34.	Will the VM-20 Reserves Supplement be filed with the state of domicile and the NAIC by March 1?	NO
35.	Will the Health Supplement be filed with the state of domicile and the NAIC by March 1?	NO
36.	Will the Market Conduct Annual Statement (MCAS) Premium Exhibit for Year be filed with appropriate jurisdictions and with the NAIC by March 1?	YES

APRIL FILING

37.	Will the confidential Regulatory Asset Adequacy Issues Summary (RAAIS) required by the Valuation Manual be filed with the state of domicile by April 1?	YES
38.	Will the Long-Term Care Experience Reporting Forms be filed with the state of domicile and the NAIC by April 1?	NO
39.	Will the Credit Insurance Experience Exhibit be filed with the state of domicile and the NAIC by April 1? (Not applicable to fraternal benefit societies) ..	NO
40.	Will the Accident and Health Policy Experience Exhibit be filed by April 1?	NO
41.	Will the Supplemental Health Care Exhibit (Parts 1 and 2) be filed with the state of domicile and the NAIC by April 1?	NO
42.	Will the confidential Actuarial Memorandum required by Actuarial Guideline XXXVIII 8D be filed with the state of domicile by April 30?	NO
43.	Will the Supplemental Term and Universal Life Insurance Reinsurance Exhibit be filed with the state of domicile and the NAIC by April 1?	NO
44.	Will the Variable Annuities Supplement be filed with the state of domicile and the NAIC by April 1?	YES
45.	Will the confidential Executive Summary of the PBR Actuarial Report be filed with the state of domicile by April 1?	YES
46.	Will the confidential Life Summary of the PBR Actuarial Report be filed with the state of domicile by April 1?	NO
47.	Will the confidential Variable Annuities Summary of the PBR Actuarial Report be filed with the state of domicile by April 1?	YES

AUGUST FILING

48.	Will Management's Report of Internal Control Over Financial Reporting be filed with the state of domicile by August 1?	YES
Explanations:		
10.	Not Required	
11.	This line of business is not written by the company.	
12.	Not Required	
13.	Not Required	
15.	Not Required	
16.	Not Required	
17.	Not Required	
18.	Not Required	
19.	Not Required	
20.	Not Required	
21.	Not Required	
22.	Not Required	
25.	Not Required	
26.	Not Required	
27.	Not Required	
28.	This line of business is not written by the company.	
29.	This line of business is not written by the company.	
30.	This line of business is not written by the company.	
31.	Not Required	
32.	Not Required	
33.	Not Required	
34.	Not Required	
35.	This line of business is not written by the company.	
38.	This line of business is not written by the company.	
39.	Not Required	
40.	This line of business is not written by the company.	
41.	This line of business is not written by the company.	
42.	Not Required	
43.	Not Required	
46.	This line of business is not written by the company.	

Bar Codes:		
10.	SIS Stockholder Information Supplement [Document Identifier 420]	
11.	Medicare Supplement Insurance Experience Exhibit [Document Identifier 360]	
12.	Trusteed Surplus Statement [Document Identifier 490]	
13.	Participating Opinion for Exhibit 5 [Document Identifier 371]	
15.	Actuarial Opinion on X-Factors [Document Identifier 442]	
16.	Actuarial Opinion on Separate Accounts Funding Guaranteed Minimum Benefit [Document Identifier 443]	
17.	Actuarial Opinion on Synthetic Guaranteed Investment Contracts [Document Identifier 444]	
18.	Reasonableness of Assumptions Certification required by Actuarial Guideline XXXV [Document Identifier 445]	
19.	Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXV [Document Identifier 446]	

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

SUPPLEMENTAL EXHIBITS AND SCHEDULES INTERROGATORIES

20.	Reasonableness of Assumptions Certification for Implied Guaranteed Rate Method required by Actuarial Guideline XXXVI [Document Identifier 447]	<div><div></div><div>704162023447000000</div></div>
21.	Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI [Document Identifier 448]	<div><div></div><div>704162023448000000</div></div>
22.	Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI (Updated Market Value) [Document Identifier 449]	<div><div></div><div>704162023449000000</div></div>
25.	Actuarial Certifications Related to Annuity Nonforfeiture Ongoing Compliance for Equity Indexed Annuities [Document Identifier 452]	<div><div></div><div>704162023452000000</div></div>
26.	Modified Guaranteed Annuity Model Regulation [Document Identifier 453]	<div><div></div><div>704162023453000000</div></div>
27.	Actuarial Certification regarding the use of 2001 Preferred Class Tables required by the Model Regulation Permitting the Recognition of Preferred Mortality Tables for Use in Determining Minimum Reserve Liabilities [Document Identifier 454]	<div><div></div><div>704162023454000000</div></div>
28.	Workers' Compensation Carve-Out Supplement [Document Identifier 495]	<div><div></div><div>704162023495000000</div></div>
29.	Supplemental Schedule O [Document Identifier 465]	<div><div></div><div>704162023465000000</div></div>
30.	Medicare Part D Coverage Supplement [Document Identifier 365]	<div><div></div><div>704162023365000000</div></div>
31.	Relief from the five-year rotation requirement for lead audit partner [Document Identifier 224]	<div><div></div><div>704162023224000000</div></div>
32.	Relief from the one-year cooling off period for independent CPA [Document Identifier 225]	<div><div></div><div>704162023225000000</div></div>
33.	Relief from the Requirements for Audit Committees [Document Identifier 226]	<div><div></div><div>704162023226000000</div></div>
34.	VM-20 Reserves Supplement [Document Identifier 456]	<div><div></div><div>704162023456000000</div></div>
35.	Health Care Receivables Supplement [Document Identifier 475]	<div><div></div><div>704162023475000000</div></div>
38.	Long-Term Care Experience Reporting Forms [Document Identifier 306]	<div><div></div><div>704162023306000000</div></div>
39.	Credit Insurance Experience Exhibit [Document Identifier 230]	<div><div></div><div>704162023230000000</div></div>
40.	Accident and Health Policy Experience Exhibit [Document Identifier 210]	<div><div></div><div>704162023210000000</div></div>
41.	Supplemental Health Care Exhibit (Parts 1 and 2) [Document Identifier 216]	<div><div></div><div>704162023216000000</div></div>
42.	Actuarial Memorandum Required by Actuarial Guideline XXXVIII 8D [Document Identifier 435]	<div><div></div><div>704162023435000000</div></div>
43.	Supplemental Term and Universal Life Insurance Reinsurance Exhibit [Document Identifier 345]	<div><div></div><div>704162023345000000</div></div>
46.	Life Summary of the PBR Actuarial Report [Document Identifier 458]	<div><div></div><div>704162023458000000</div></div>

NONE

SUMMARY INVESTMENT SCHEDULE

Investment Categories	Gross Investment Holdings		Admitted Assets as Reported in the Annual Statement			
	1	2	3	4	5	6
	Amount	Percentage of Column 1 Line 13	Amount	Securities Lending Reinvested Collateral Amount	Total (Col. 3 + 4) Amount	Percentage of Column 5 Line 13
1. Long-Term Bonds (Schedule D, Part 1):						
1.01 U.S. governments	4,341,924	1.046	4,341,924		4,341,924	1.046
1.02 All other governments		0.000				0.000
1.03 U.S. states, territories and possessions, etc. guaranteed		0.000				0.000
1.04 U.S. political subdivisions of states, territories, and possessions, guaranteed		0.000				0.000
1.05 U.S. special revenue and special assessment obligations, etc. non-guaranteed	23,889,039	5.755	23,889,039		23,889,039	5.755
1.06 Industrial and miscellaneous	219,126,003	52.788	219,126,003		219,126,003	52.788
1.07 Hybrid securities	1,814,225	0.437	1,814,225		1,814,225	0.437
1.08 Parent, subsidiaries and affiliates	995,172	0.240	995,172		995,172	0.240
1.09 SVO identified funds		0.000				0.000
1.10 Unaffiliated bank loans		0.000				0.000
1.11 Unaffiliated certificates of deposit		0.000				0.000
1.12 Total long-term bonds	250,166,363	60.266	250,166,363		250,166,363	60.266
2. Preferred stocks (Schedule D, Part 2, Section 1):						
2.01 Industrial and miscellaneous (Unaffiliated)		0.000				0.000
2.02 Parent, subsidiaries and affiliates		0.000				0.000
2.03 Total preferred stocks		0.000				0.000
3. Common stocks (Schedule D, Part 2, Section 2):						
3.01 Industrial and miscellaneous Publicly traded (Unaffiliated)	22,971	0.006	22,971		22,971	0.006
3.02 Industrial and miscellaneous Other (Unaffiliated)		0.000				0.000
3.03 Parent, subsidiaries and affiliates Publicly traded		0.000				0.000
3.04 Parent, subsidiaries and affiliates Other		0.000				0.000
3.05 Mutual funds		0.000				0.000
3.06 Unit investment trusts		0.000				0.000
3.07 Closed-end funds		0.000				0.000
3.08 Exchange traded funds		0.000				0.000
3.09 Total common stocks	22,971	0.006	22,971		22,971	0.006
4. Mortgage loans (Schedule B):						
4.01 Farm mortgages		0.000				0.000
4.02 Residential mortgages	1,335,508	0.322	1,335,508		1,335,508	0.322
4.03 Commercial mortgages		0.000				0.000
4.04 Mezzanine real estate loans		0.000				0.000
4.05 Total valuation allowance		0.000				0.000
4.06 Total mortgage loans	1,335,508	0.322	1,335,508		1,335,508	0.322
5. Real estate (Schedule A):						
5.01 Properties occupied by company		0.000				0.000
5.02 Properties held for production of income		0.000				0.000
5.03 Properties held for sale		0.000				0.000
5.04 Total real estate		0.000				0.000
6. Cash, cash equivalents and short-term investments:						
6.01 Cash (Schedule E, Part 1)	1,010,130	0.243	1,010,130		1,010,130	0.243
6.02 Cash equivalents (Schedule E, Part 2)	63,123,354	15.207	63,123,354		63,123,354	15.207
6.03 Short-term investments (Schedule DA)	2,963,408	0.714	2,963,408		2,963,408	0.714
6.04 Total cash, cash equivalents and short-term investments	67,096,892	16.164	67,096,892		67,096,892	16.164
7. Contract loans	96,298,549	23.199	96,298,549		96,298,549	23.199
8. Derivatives (Schedule DB)		0.000				0.000
9. Other invested assets (Schedule BA)	183,328	0.044	183,328		183,328	0.044
10. Receivables for securities		0.000				0.000
11. Securities Lending (Schedule DL, Part 1).....		0.000		XXX	XXX	XXX
12. Other invested assets (Page 2, Line 11)		0.000				0.000
13. Total invested assets	415,103,610	100.000	415,103,610		415,103,610	100.000

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

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)	

SCHEDULE B - VERIFICATION BETWEEN YEARS

Mortgage Loans

1.	Book value/recorded investment excluding accrued interest, December 31 of prior year	1,657,058
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)	1,556
3.	Capitalized deferred interest and other:	
	3.1 Totals, Part 1, Column 12	
	3.2 Totals, Part 3, Column 11	
4.	Accrual of discount	(185)
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	
7.	Deduct amounts received on disposals, Part 3, Column 15	200,403
8.	Deduct amortization of premium and mortgage interest points and commitment fees	122,518
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)	1,335,508
12.	Total valuation allowance	
13.	Subtotal (Line 11 plus 12)	1,335,508
14.	Deduct total nonadmitted amounts	
15.	Statement value of mortgages owned at end of current period (Line 13 minus Line 14)	1,335,508

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

SCHEDULE BA - VERIFICATION BETWEEN YEARS

Other Long-Term Invested Assets

1.	Book/adjusted carrying value, December 31 of prior year	191,076
2.	Cost of acquired:	
	2.1 Actual cost at time of acquisition (Part 2, Column 8)	
	2.2 Additional investment made after acquisition (Part 2, Column 9)	52,369
3.	Capitalized deferred interest and other:	
	3.1 Totals, Part 1, Column 16	
	3.2 Totals, Part 3, Column 12	
4.	Accrual of discount	13,617
5.	Unrealized valuation increase/(decrease):	
	5.1 Totals, Part 1, Column 13	(58,704)
	5.2 Totals, Part 3, Column 9	(58,704)
6.	Total gain (loss) on disposals, Part 3, Column 19	
7.	Deduct amounts received on disposals, Part 3, Column 16	15,031
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)	183,328
12.	Deduct total nonadmitted amounts	
13.	Statement value at end of current period (Line 11 minus Line 12)	183,328

SCHEDULE D - VERIFICATION BETWEEN YEARS

Bonds and Stocks

1.	Book/adjusted carrying value, December 31 of prior year	212,935,211
2.	Cost of bonds and stocks acquired, Part 3, Column 7	47,586,394
3.	Accrual of discount	391,275
4.	Unrealized valuation increase/(decrease):	
	4.1. Part 1, Column 12	(320,678)
	4.2. Part 2, Section 1, Column 15	
	4.3. Part 2, Section 2, Column 13	318
	4.4. Part 4, Column 11	(320,360)
5.	Total gain (loss) on disposals, Part 4, Column 19	(502,428)
6.	Deduction consideration for bonds and stocks disposed of, Part 4, Column 7	9,309,776
7.	Deduct amortization of premium	257,712
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	337,541
	9.2. Part 2, Section 1, Column 17	
	9.3. Part 2, Section 2, Column 14	
	9.4. Part 4, Column 13	43
10.	Total investment income recognized as a result of prepayment penalties and/or acceleration fees, Note 5Q, Line 2	4,314
11.	Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9+10)	250,189,334
12.	Deduct total nonadmitted amounts	
13.	Statement value at end of current period (Line 11 minus Line 12)	250,189,334

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
BONDS	1. United States	4,341,924	4,343,626	4,339,760	4,345,699
Governments (Including all obligations guaranteed by governments)	2. Canada				
	3. Other Countries				
	4. Totals	4,341,924	4,343,626	4,339,760	4,345,699
U.S. States, Territories and Possessions (Direct and guaranteed)	5. Totals				
U.S. Political Subdivisions of States, Territories and Possessions (Direct and guaranteed)	6. Totals				
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	23,889,039	24,141,028	23,885,545	24,762,613
Industrial and Miscellaneous, SVO Identified Funds, Unaffiliated Bank Loans, Unaffiliated Certificates of Deposit and Hybrid Securities (unaffiliated)	8. United States	201,764,710	190,609,629	201,370,289	203,472,825
	9. Canada	3,304,733	3,147,547	3,283,818	3,320,000
	10. Other Countries	15,870,785	16,435,612	16,312,132	16,545,000
	11. Totals	220,940,228	210,192,788	220,966,239	223,337,825
Parent, Subsidiaries and Affiliates	12. Totals	995,172	914,817	993,474	1,000,000
	13. Total Bonds	250,166,363	239,592,259	250,185,018	253,446,137
PREFERRED STOCKS	14. United States				
Industrial and Miscellaneous (unaffiliated)	15. Canada				
	16. Other Countries				
	17. Totals				
Parent, Subsidiaries and Affiliates	18. Totals				
	19. Total Preferred Stocks				
COMMON STOCKS	20. United States				
Industrial and Miscellaneous (unaffiliated), Mutual Funds, Unit Investment Trusts, Closed-End Funds and Exchange Traded Funds	21. Canada				
	22. Other Countries	22,971	22,971	4,641	
	23. Totals	22,971	22,971	4,641	
Parent, Subsidiaries and Affiliates	24. Totals				
	25. Total Common Stocks	22,971	22,971	4,641	
	26. Total Stocks	22,971	22,971	4,641	
	27. Total Bonds and Stocks	250,189,334	239,615,230	250,189,659	

ANNUAL STATEMENT FOR THE YEAR 2023 OF THE MML Bay State Life Insurance Company
SCHEDULE D - PART 1A - SECTION 1

Quality and Maturity Distribution of All Bonds Owned December 31, at Book/Adjusted Carrying Values by Major Types of Issues and NAIC Designations

NAIC Designation	1 1 Year or Less	2 Over 1 Year Through 5 Years	3 Over 5 Years Through 10 Years	4 Over 10 Years Through 20 Years	5 Over 20 Years	6 No Maturity Date	7 Total Current Year	8 Col. 7 as a % of Line 12.7	9 Total from Col. 7 Prior Year	10 % From Col. 8 Prior Year	11 Total Publicly Traded	12 Total Privately Placed (a)
1. U.S. Governments												
1.1 NAIC 1	400	4,341,524				XXX	4,341,924	1.4	4,445,692	1.4	4,341,924	
1.2 NAIC 2						XXX						
1.3 NAIC 3						XXX						
1.4 NAIC 4						XXX						
1.5 NAIC 5						XXX						
1.6 NAIC 6						XXX						
1.7 Totals	400	4,341,524				XXX	4,341,924	1.4	4,445,692	1.4	4,341,924	
2. All Other Governments												
2.1 NAIC 1						XXX						
2.2 NAIC 2						XXX						
2.3 NAIC 3						XXX						
2.4 NAIC 4						XXX						
2.5 NAIC 5						XXX						
2.6 NAIC 6						XXX						
2.7 Totals						XXX						
3. U.S. States, Territories and Possessions etc., Guaranteed												
3.1 NAIC 1						XXX						
3.2 NAIC 2						XXX						
3.3 NAIC 3						XXX						
3.4 NAIC 4						XXX						
3.5 NAIC 5						XXX						
3.6 NAIC 6						XXX						
3.7 Totals						XXX						
4. U.S. Political Subdivisions of States, Territories and Possessions , Guaranteed												
4.1 NAIC 1						XXX						
4.2 NAIC 2						XXX						
4.3 NAIC 3						XXX						
4.4 NAIC 4						XXX						
4.5 NAIC 5						XXX						
4.6 NAIC 6						XXX						
4.7 Totals						XXX						
5. U.S. Special Revenue & Special Assessment Obligations, etc., Non-Guaranteed												
5.1 NAIC 1	1,782,098	6,102,425	5,675,722	6,968,844	3,359,948	XXX	23,889,037	7.6	24,133	0.0	23,889,037	
5.2 NAIC 2						XXX						
5.3 NAIC 3						XXX						
5.4 NAIC 4						XXX						
5.5 NAIC 5						XXX						
5.6 NAIC 6						XXX						
5.7 Totals	1,782,098	6,102,425	5,675,722	6,968,844	3,359,948	XXX	23,889,037	7.6	24,133	0.0	23,889,037	

ANNUAL STATEMENT FOR THE YEAR 2023 OF THE MML Bay State Life Insurance Company
SCHEDULE D - PART 1A - SECTION 1 (Continued)

Quality and Maturity Distribution of All Bonds Owned December 31, at Book/Adjusted Carrying Values by Major Types of Issues and NAIC Designations

NAIC Designation	1 1 Year or Less	2 Over 1 Year Through 5 Years	3 Over 5 Years Through 10 Years	4 Over 10 Years Through 20 Years	5 Over 20 Years	6 No Maturity Date	7 Total Current Year	8 Col. 7 as a % of Line 12.7	9 Total from Col. 7 Prior Year	10 % From Col. 8 Prior Year	11 Total Publicly Traded	12 Total Privately Placed (a)
6. Industrial & Miscellaneous (Unaffiliated)												
6.1 NAIC 1	21,635,871	100,038,207	22,798,964	1,805,905	993,237	XXX	147,272,184	46.6	130,115,824	40.3	116,030,946	31,241,238
6.2 NAIC 2	67,604,639	58,378,262	5,230,529	1,030,068	999,603	XXX	133,243,101	42.1	182,432,025	56.5	58,993,244	74,249,857
6.3 NAIC 3	485,289	2,653,272	15,670			XXX	3,154,231	1.0	4,119,319	1.3	2,580,523	573,708
6.4 NAIC 4	12,102	742,506	30,055	27,554		XXX	812,217	0.3	6,331	0.0	812,217	
6.5 NAIC 5	1,334	6,850	17,053			XXX	25,237	0.0	999,646	0.3	25,237	
6.6 NAIC 6	166,397				539,400	XXX	705,797	0.2			539,400	166,397
6.7 Totals	89,905,632	161,819,097	28,092,271	2,863,527	2,532,240	XXX	285,212,767	90.2	317,673,145	98.3	178,981,567	106,231,200
7. Hybrid Securities												
7.1 NAIC 1						XXX						
7.2 NAIC 2					1,814,225	XXX	1,814,225	0.6			1,814,225	
7.3 NAIC 3						XXX						
7.4 NAIC 4						XXX						
7.5 NAIC 5						XXX						
7.6 NAIC 6						XXX						
7.7 Totals					1,814,225	XXX	1,814,225	0.6			1,814,225	
8. Parent, Subsidiaries and Affiliates												
8.1 NAIC 1						XXX						
8.2 NAIC 2		995,172				XXX	995,172	0.3	993,621	0.3	995,172	
8.3 NAIC 3						XXX						
8.4 NAIC 4						XXX						
8.5 NAIC 5						XXX						
8.6 NAIC 6						XXX						
8.7 Totals		995,172				XXX	995,172	0.3	993,621	0.3	995,172	
9. SVO Identified Funds												
9.1 NAIC 1	XXX	XXX	XXX	XXX	XXX							
9.2 NAIC 2	XXX	XXX	XXX	XXX	XXX							
9.3 NAIC 3	XXX	XXX	XXX	XXX	XXX							
9.4 NAIC 4	XXX	XXX	XXX	XXX	XXX							
9.5 NAIC 5	XXX	XXX	XXX	XXX	XXX							
9.6 NAIC 6	XXX	XXX	XXX	XXX	XXX							
9.7 Totals	XXX	XXX	XXX	XXX	XXX							
10. Unaffiliated Bank Loans												
10.1 NAIC 1						XXX						
10.2 NAIC 2						XXX						
10.3 NAIC 3						XXX						
10.4 NAIC 4						XXX						
10.5 NAIC 5						XXX						
10.6 NAIC 6						XXX						
10.7 Totals						XXX						
11. Unaffiliated Certificates of Deposit												
11.1 NAIC 1						XXX						
11.2 NAIC 2						XXX						
11.3 NAIC 3						XXX						
11.4 NAIC 4						XXX						
11.5 NAIC 5						XXX						
11.6 NAIC 6						XXX						
11.7 Totals						XXX						

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

SCHEDULE D - PART 1A - SECTION 1 (Continued)

Quality and Maturity Distribution of All Bonds Owned December 31, at Book/Adjusted Carrying Values by Major Types of Issues and NAIC Designations

	1	2	3	4	5	6	7	8	9	10	11	12
NAIC Designation	1 Year or Less	Over 1 Year Through 5 Years	Over 5 Years Through 10 Years	Over 10 Years Through 20 Years	Over 20 Years	No Maturity Date	Total Current Year	Col. 7 as a % of Line 12.7	Total from Col. 7 Prior Year	% From Col. 8 Prior Year	Total Publicly Traded	Total Privately Placed (a)
12. Total Bonds Current Year												
12.1 NAIC 1	(d) .....23,418,369	.....110,482,156	.....28,474,686	.....8,774,749	.....4,353,185		.....175,503,145	.....55.5	.....XXX	.....XXX	.....144,261,907	.....31,241,238
12.2 NAIC 2	(d) .....67,604,639	.....59,373,434	.....5,230,529	.....1,030,068	.....2,813,828		.....136,052,498	.....43.0	.....XXX	.....XXX	.....61,802,641	.....74,249,857
12.3 NAIC 3	(d) .....485,289	.....2,653,272	.....15,670				.....3,154,231	.....1.0	.....XXX	.....XXX	.....2,580,523	.....573,708
12.4 NAIC 4	(d) .....12,102	.....742,506	.....30,055	.....27,554			.....812,217	.....0.3	.....XXX	.....XXX	.....812,217	
12.5 NAIC 5	(d) .....1,334	.....6,850	.....17,053				(c) .....25,237	.....0.0	.....XXX	.....XXX	.....25,237	
12.6 NAIC 6	(d) .....166,397				.....539,400		(c) .....705,797	.....0.2	.....XXX	.....XXX	.....539,400	.....166,397
12.7 Totals .....	.....91,688,130	.....173,258,218	.....33,767,993	.....9,832,371	.....7,706,413		(b) ...316,253,125	.....100.0	.....XXX	.....XXX	.....210,021,925	.....106,231,200
12.8 Line 12.7 as a % of Col. 7	.....29.0	.....54.8	.....10.7	.....3.1	.....2.4		.....100.0	.....XXX	.....XXX	.....XXX	.....66.4	.....33.6
13. Total Bonds Prior Year												
13.1 NAIC 1 .....	.....8,101,537	.....97,603,299	.....25,381,305	.....1,343,826	.....2,155,682		.....XXX	.....XXX	.....134,585,649	.....41.6	.....119,105,450	.....15,480,199
13.2 NAIC 2 .....	.....112,822,112	.....49,092,696	.....19,217,128	.....1,294,112	.....999,598		.....XXX	.....XXX	.....183,425,646	.....56.8	.....58,638,043	.....124,787,603
13.3 NAIC 3 .....	.....508,932	.....2,991,649	.....618,738				.....XXX	.....XXX	.....4,119,319	.....1.3	.....3,551,702	.....567,617
13.4 NAIC 4 .....	.....1,249	.....2,792	.....2,290				.....XXX	.....XXX	.....6,331	.....0.0	.....6,331	
13.5 NAIC 5 .....	.....504,789	.....486,057	.....6,851	.....1,949			.....XXX	.....XXX	(c) .....999,646	.....0.3	.....29,208	.....970,438
13.6 NAIC 6 .....							.....XXX	.....XXX	(c)			
13.7 Totals .....	.....121,938,619	.....150,176,493	.....45,226,312	.....2,639,887	.....3,155,280		.....XXX	.....XXX	(b) ...323,136,591	.....100.0	.....181,330,734	.....141,805,857
13.8 Line 13.7 as a % of Col. 9	.....37.7	.....46.5	.....14.0	.....0.8	.....1.0		.....XXX	.....XXX	.....100.0	.....XXX	.....56.1	.....43.9
14. Total Publicly Traded Bonds												
14.1 NAIC 1 .....	.....14,229,708	.....96,465,043	.....20,983,922	.....8,230,049	.....4,353,185		.....144,261,907	.....45.6	.....119,105,450	.....36.9	.....144,261,907	.....XXX
14.2 NAIC 2 .....	.....7,498,246	.....47,384,003	.....3,076,498	.....1,030,068	.....2,813,827		.....61,802,642	.....19.5	.....58,638,043	.....18.1	.....61,802,642	.....XXX
14.3 NAIC 3 .....	.....469,770	.....2,110,753					.....2,580,523	.....0.8	.....3,551,702	.....1.1	.....2,580,523	.....XXX
14.4 NAIC 4 .....	.....12,102	.....742,506	.....30,055	.....27,554			.....812,217	.....0.3	.....6,331	.....0.0	.....812,217	.....XXX
14.5 NAIC 5 .....	.....1,334	.....6,850	.....17,053				.....25,237	.....0.0	.....29,208	.....0.0	.....25,237	.....XXX
14.6 NAIC 6 .....					.....539,400		.....539,400	.....0.2			.....539,400	.....XXX
14.7 Totals .....	.....22,211,160	.....146,709,155	.....24,107,528	.....9,287,671	.....7,706,412		.....210,021,926	.....66.4	.....181,330,734	.....56.1	.....210,021,926	.....XXX
14.8 Line 14.7 as a % of Col. 7	.....10.6	.....69.9	.....11.5	.....4.4	.....3.7		.....100.0	.....XXX	.....XXX	.....XXX	.....100.0	.....XXX
14.9 Line 14.7 as a % of Line 12.7, Col. 7, Section 12	.....7.0	.....46.4	.....7.6	.....2.9	.....2.4		.....66.4	.....XXX	.....XXX	.....XXX	.....66.4	.....XXX
15. Total Privately Placed Bonds												
15.1 NAIC 1 .....	.....9,188,661	.....14,017,113	.....7,490,764	.....544,700			.....31,241,238	.....9.9	.....15,480,199	.....4.8	.....XXX	.....31,241,238
15.2 NAIC 2 .....	.....60,106,393	.....11,989,432	.....2,154,031		.....1		.....74,249,857	.....23.5	.....124,787,603	.....38.6	.....XXX	.....74,249,857
15.3 NAIC 3 .....	.....15,519	.....542,519	.....15,670				.....573,708	.....0.2	.....567,617	.....0.2	.....XXX	.....573,708
15.4 NAIC 4 .....											.....XXX	
15.5 NAIC 5 .....									.....970,438	.....0.3	.....XXX	
15.6 NAIC 6 .....	.....166,397						.....166,397	.....0.1			.....XXX	.....166,397
15.7 Totals .....	.....69,476,970	.....26,549,064	.....9,660,465	.....544,700	.....1		.....106,231,200	.....33.6	.....141,805,857	.....43.9	.....XXX	.....106,231,200
15.8 Line 15.7 as a % of Col. 7	.....65.4	.....25.0	.....9.1	.....0.5	.....0.0		.....100.0	.....XXX	.....XXX	.....XXX	.....XXX	.....100.0
15.9 Line 15.7 as a % of Line 12.7, Col. 7, Section 12	.....22.0	.....8.4	.....3.1	.....0.2	.....0.0		.....33.6	.....XXX	.....XXX	.....XXX	.....XXX	.....33.6

(a) Includes \$106,231,200 freely tradable under SEC Rule 144 or qualified for resale under SEC Rule 144A.

(b) Includes \$ current year of bonds with Z designations and \$993,621 prior year of bonds with Z designations. The letter "Z" means the NAIC designation was not assigned by the Securities Valuation Office (SVO) at the date of the statement.

(c) Includes \$ current year, \$504,789 prior year of bonds with 5GI designations and \$539,400 current year, \$494,856 prior year of bonds with 6* designations. "5GI" means the NAIC designation was assigned by the (SVO) in reliance on the insurer's certification that the issuer is current in all principal and interest payments. "6*" means the NAIC designation was assigned by the SVO due to inadequate certification of principal and interest payments.

(d) Includes the following amount of short-term and cash equivalent bonds by NAIC designation: NAIC 1 \$5,980,369 ; NAIC 2 \$60,106,394 ; NAIC 3 \$; NAIC 4 \$; NAIC 5 \$; NAIC 6 \$

ANNUAL STATEMENT FOR THE YEAR 2023 OF THE MML Bay State Life Insurance Company
SCHEDULE D - PART 1A - SECTION 2

Maturity Distribution of All Bonds Owned December 31, at Book/Adjusted Carrying Values by Major Type and Subtype of Issues

Distribution by Type	1 1 Year or Less	2 Over 1 Year Through 5 Years	3 Over 5 Years Through 10 Years	4 Over 10 Years Through 20 Years	5 Over 20 Years	6 No Maturity Date	7 Total Current Year	8 Col. 7 as a % of Line 12.09	9 Total from Col. 7 Prior Year	10 % From Col. 8 Prior Year	11 Total Publicly Traded	12 Total Privately Placed
1. U.S. Governments												
1.01 Issuer Obligations		4,341,226				XXX	4,341,226	1.4	4,444,561	1.4	4,341,226	
1.02 Residential Mortgage-Backed Securities	400	299				XXX	699	0.0	1,130	0.0	699	
1.03 Commercial Mortgage-Backed Securities						XXX						
1.04 Other Loan-Backed and Structured Securities ...						XXX						
1.05 Totals	400	4,341,525				XXX	4,341,925	1.4	4,445,691	1.4	4,341,925	
2. All Other Governments												
2.01 Issuer Obligations						XXX						
2.02 Residential Mortgage-Backed Securities						XXX						
2.03 Commercial Mortgage-Backed Securities						XXX						
2.04 Other Loan-Backed and Structured Securities ...						XXX						
2.05 Totals						XXX						
3. U.S. States, Territories and Possessions, Guaranteed												
3.01 Issuer Obligations						XXX						
3.02 Residential Mortgage-Backed Securities						XXX						
3.03 Commercial Mortgage-Backed Securities						XXX						
3.04 Other Loan-Backed and Structured Securities ...						XXX						
3.05 Totals						XXX						
4. U.S. Political Subdivisions of States, Territories and Possessions, Guaranteed												
4.01 Issuer Obligations						XXX						
4.02 Residential Mortgage-Backed Securities						XXX						
4.03 Commercial Mortgage-Backed Securities						XXX						
4.04 Other Loan-Backed and Structured Securities ...						XXX						
4.05 Totals						XXX						
5. U.S. Special Revenue & Special Assessment Obligations etc., Non-Guaranteed												
5.01 Issuer Obligations						XXX						
5.02 Residential Mortgage-Backed Securities	1,782,098	6,102,425	5,675,722	6,968,844	3,359,948	XXX	23,889,037	7.6	24,132	0.0	23,889,037	
5.03 Commercial Mortgage-Backed Securities						XXX						
5.04 Other Loan-Backed and Structured Securities ...						XXX						
5.05 Totals	1,782,098	6,102,425	5,675,722	6,968,844	3,359,948	XXX	23,889,037	7.6	24,132	0.0	23,889,037	
6. Industrial and Miscellaneous												
6.01 Issuer Obligations	80,264,381	95,761,638	24,044,220	2,147,007	2,532,239	XXX	204,749,485	64.7	239,884,684	74.2	113,020,936	91,728,549
6.02 Residential Mortgage-Backed Securities	814,705	3,174,340	1,476,116	408,877		XXX	5,874,038	1.9	1,632,842	0.5	553,523	5,320,515
6.03 Commercial Mortgage-Backed Securities	7,181,259	60,001,957				XXX	67,183,216	21.2	69,054,828	21.4	64,566,078	2,617,138
6.04 Other Loan-Backed and Structured Securities ...	1,645,287	2,881,162	2,571,935	307,643		XXX	7,406,027	2.3	7,100,792	2.2	841,028	6,564,999
6.05 Totals	89,905,632	161,819,097	28,092,271	2,863,527	2,532,239	XXX	285,212,766	90.2	317,673,146	98.3	178,981,565	106,231,201
7. Hybrid Securities												
7.01 Issuer Obligations					1,814,225	XXX	1,814,225	0.6			1,814,225	
7.02 Residential Mortgage-Backed Securities						XXX						
7.03 Commercial Mortgage-Backed Securities						XXX						
7.04 Other Loan-Backed and Structured Securities ...						XXX						
7.05 Totals					1,814,225	XXX	1,814,225	0.6			1,814,225	
8. Parent, Subsidiaries and Affiliates												
8.01 Issuer Obligations		995,172				XXX	995,172	0.3	993,621	0.3	995,172	
8.02 Residential Mortgage-Backed Securities						XXX						
8.03 Commercial Mortgage-Backed Securities						XXX						
8.04 Other Loan-Backed and Structured Securities ...						XXX						
8.05 Affiliated Bank Loans - Issued						XXX						
8.06 Affiliated Bank Loans - Acquired						XXX						
8.07 Totals		995,172				XXX	995,172	0.3	993,621	0.3	995,172	

ANNUAL STATEMENT FOR THE YEAR 2023 OF THE MML Bay State Life Insurance Company
SCHEDULE D - PART 1A - SECTION 2 (Continued)

Maturity Distribution of All Bonds Owned December 31, at Book/Adjusted Carrying Values by Major Type and Subtype of Issues

	1	2	3	4	5	6	7	8	9	10	11	12
Distribution by Type	1 Year or Less	Over 1 Year Through 5 Years	Over 5 Years Through 10 Years	Over 10 Years Through 20 Years	Over 20 Years	No Maturity Date	Total Current Year	Col. 7 as a % of Line 12.09	Total from Col. 7 Prior Year	% From Col. 8 Prior Year	Total Publicly Traded	Total Privately Placed
9. SVO Identified Funds												
9.01 Exchange Traded Funds Identified by the SVO	XXX	XXX	XXX	XXX	XXX							
10. Unaffiliated Bank Loans												
10.01 Unaffiliated Bank Loans - Issued						XXX						
10.02 Unaffiliated Bank Loans - Acquired						XXX						
10.03 Totals						XXX						
11. Unaffiliated Certificates of Deposit												
11.01 Totals						XXX						
12. Total Bonds Current Year												
12.01 Issuer Obligations	80,264,381	101,098,036	24,044,220	2,147,007	4,346,464	XXX	211,900,108	67.0	XXX	XXX	120,171,559	91,728,549
12.02 Residential Mortgage-Backed Securities	2,597,203	9,277,064	7,151,838	7,377,721	3,359,948	XXX	29,763,774	9.4	XXX	XXX	24,443,259	5,320,515
12.03 Commercial Mortgage-Backed Securities	7,181,259	60,001,957				XXX	67,183,216	21.2	XXX	XXX	64,566,078	2,617,138
12.04 Other Loan-Backed and Structured Securities	1,645,287	2,881,162	2,571,935	307,643		XXX	7,406,027	2.3	XXX	XXX	841,028	6,564,999
12.05 SVO Identified Funds	XXX	XXX	XXX	XXX	XXX				XXX	XXX		
12.06 Affiliated Bank Loans						XXX			XXX	XXX		
12.07 Unaffiliated Bank Loans						XXX			XXX	XXX		
12.08 Unaffiliated Certificates of Deposit						XXX			XXX	XXX		
12.09 Totals	91,688,130	173,258,219	33,767,993	9,832,371	7,706,412		316,253,125	100.0	XXX	XXX	210,021,924	106,231,201
12.10 Line 12.09 as a % of Col. 7	29.0	54.8	10.7	3.1	2.4		100.0	XXX	XXX	XXX	66.4	33.6
13. Total Bonds Prior Year												
13.01 Issuer Obligations	118,494,735	80,300,237	42,551,146	1,984,066	1,992,683	XXX	XXX	XXX	245,322,866	75.9	114,177,900	131,144,966
13.02 Residential Mortgage-Backed Securities	129,681	1,315,539	149,644	63,241		XXX	XXX	XXX	1,658,105	0.5	625,251	1,032,854
13.03 Commercial Mortgage-Backed Securities	2,390,299	66,664,528				XXX	XXX	XXX	69,054,828	21.4	65,737,216	3,317,611
13.04 Other Loan-Backed and Structured Securities	923,905	1,896,188	2,525,522	592,581	1,162,597	XXX	XXX	XXX	7,100,792	2.2	790,368	6,310,423
13.05 SVO Identified Funds	XXX	XXX	XXX	XXX	XXX		XXX	XXX				
13.06 Affiliated Bank Loans						XXX	XXX	XXX				
13.07 Unaffiliated Bank Loans						XXX	XXX	XXX				
13.08 Unaffiliated Certificates of Deposit						XXX	XXX	XXX				
13.09 Totals	121,938,619	150,176,492	45,226,312	2,639,887	3,155,280		XXX	XXX	323,136,590	100.0	181,330,735	141,805,855
13.10 Line 13.09 as a % of Col. 9	37.7	46.5	14.0	0.8	1.0		XXX	XXX	100.0	XXX	56.1	43.9
14. Total Publicly Traded Bonds												
14.01 Issuer Obligations	14,177,619	81,428,438	18,072,031	2,147,007	4,346,464	XXX	120,171,559	38.0	114,177,900	35.3	120,171,559	XXX
14.02 Residential Mortgage-Backed Securities	1,850,532	6,357,000	5,809,467	7,066,312	3,359,948	XXX	24,443,259	7.7	625,251	0.2	24,443,259	XXX
14.03 Commercial Mortgage-Backed Securities	6,062,778	58,503,300				XXX	64,566,078	20.4	65,737,216	20.3	64,566,078	XXX
14.04 Other Loan-Backed and Structured Securities	120,230	420,417	226,029	74,352		XXX	841,028	0.3	790,368	0.2	841,028	XXX
14.05 SVO Identified Funds	XXX	XXX	XXX	XXX	XXX							XXX
14.06 Affiliated Bank Loans						XXX						XXX
14.07 Unaffiliated Bank Loans						XXX						XXX
14.08 Unaffiliated Certificates of Deposit						XXX						XXX
14.09 Totals	22,211,159	146,709,155	24,107,527	9,287,671	7,706,412		210,021,924	66.4	181,330,735	56.1	210,021,924	XXX
14.10 Line 14.09 as a % of Col. 7	10.6	69.9	11.5	4.4	3.7		100.0	XXX	XXX	XXX	100.0	XXX
14.11 Line 14.09 as a % of Line 12.09, Col. 7, Section 12	7.0	46.4	7.6	2.9	2.4		66.4	XXX	XXX	XXX	66.4	XXX
15. Total Privately Placed Bonds												
15.01 Issuer Obligations	66,086,762	19,669,598	5,972,189			XXX	91,728,549	29.0	131,144,966	40.6	XXX	91,728,549
15.02 Residential Mortgage-Backed Securities	746,671	2,920,064	1,342,371	311,409		XXX	5,320,515	1.7	1,032,854	0.3	XXX	5,320,515
15.03 Commercial Mortgage-Backed Securities	1,118,481	1,498,657				XXX	2,617,138	0.8	3,317,611	1.0	XXX	2,617,138
15.04 Other Loan-Backed and Structured Securities	1,525,057	2,460,745	2,345,906	233,291		XXX	6,564,999	2.1	6,310,423	2.0	XXX	6,564,999
15.05 SVO Identified Funds	XXX	XXX	XXX	XXX	XXX						XXX	
15.06 Affiliated Bank Loans						XXX					XXX	
15.07 Unaffiliated Bank Loans						XXX					XXX	
15.08 Unaffiliated Certificates of Deposit						XXX					XXX	
15.09 Totals	69,476,971	26,549,064	9,660,466	544,700			106,231,201	33.6	141,805,855	43.9	XXX	106,231,201
15.10 Line 15.09 as a % of Col. 7	65.4	25.0	9.1	0.5			100.0	XXX	XXX	XXX	XXX	100.0
15.11 Line 15.09 as a % of Line 12.09, Col. 7, Section 12	22.0	8.4	3.1	0.2			33.6	XXX	XXX	XXX	XXX	33.6

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

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					
2. Cost of short-term investments acquired	34,577,516	34,577,516			
3. Accrual of discount	351,287	351,287			
4. Unrealized valuation increase/(decrease)					
5. Total gain (loss) on disposals	725	725			
6. Deduct consideration received on disposals	31,966,120	31,966,120			
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)	2,963,408	2,963,408			
11. Deduct total nonadmitted amounts					
12. Statement value at end of current period (Line 10 minus Line 11)	2,963,408	2,963,408			

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

Schedule DB - Part A - Verification - Options, Caps, Floors, Collars, Swaps and Forwards

N O N E

Schedule DB - Part B - Verification - Futures Contracts

N O N E

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 - Book/Adjusted Carrying Value, Fair Value and Potential Exposure of
Derivatives

N O N E

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

SCHEDULE E - PART 2 - VERIFICATION BETWEEN YEARS

(Cash Equivalents)

	1	2	3	4
	Total	Bonds	Money Market Mutual funds	Other (a)
1. Book/adjusted carrying value, December 31 of prior year	110,224,032	110,224,032		
2. Cost of cash equivalents acquired	1,266,614,069	1,266,614,069		
3. Accrual of discount	6,117,413	6,117,413		
4. Unrealized valuation increase/(decrease)				
5. Total gain (loss) on disposals	1,745	1,745		
6. Deduct consideration received on disposals	1,319,833,904	1,319,833,904		
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)	63,123,354	63,123,354		
11. Deduct total nonadmitted amounts				
12. Statement value at end of current period (Line 10 minus Line 11)	63,123,354	63,123,354		

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