



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

# ANNUAL STATEMENT

FOR THE YEAR ENDED DECEMBER 31, 2021

OF THE CONDITION AND AFFAIRS OF THE SEPARATE ACCOUNTS OF THE

## MML Bay State Life Insurance Company

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

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

Country of Domicile United States of America

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

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

Statutory Home Office 100 Bright Meadow Boulevard, Enfield, CT, US 06082  
(Street and Number) (City or Town, State, Country and Zip Code)

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

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

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

Internet Website Address www.massmutual.com

Statutory Statement Contact Yin Wang, 617-695-4071  
(Name) (Area Code) (Telephone Number)  
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(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 Michael Robert Fanning, Executive Vice President Melvin Timothy Corbett, Executive Vice President

### DIRECTORS OR TRUSTEES

Roger William Crandall - Chairman Michael Robert Fanning 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 \_\_\_\_\_ day of \_\_\_\_\_

- a. Is this an original filing? ..... Yes [  ] No [  ]  
b. If no,  
1. State the amendment number.....  
2. Date filed .....  
3. Number of pages attached.....

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company

**ASSETS**

	Current Year			Prior Year
	1 General Account Basis	2 Fair Value Basis	3 Total (Cols. 1 + 2)	4 Total
1. Bonds (Schedule D).....	1,042,817,490	2,170,136,452	3,212,953,942	3,349,549,451
2. Stocks (Schedule D):				
2.1 Preferred stocks .....				
2.2 Common stocks .....		1,377,928,591	1,377,928,591	1,195,555,641
3. Mortgage loans on real estate (Schedule B).....	8,931,579		8,931,579	10,194,089
4. Real estate (Schedule A):				
4.1 Properties held for the production of income (less \$ ..... encumbrances) .....				
4.2 Properties held for sale (less \$ ..... encumbrances) .....				
5. Cash (\$ .....5,275 Schedule E - Part 1), and cash equivalents (\$ .....225,775,431 , Schedule E - Part 2) .....	118,287,008	107,493,698	225,780,706	201,276,297
6. Short-term investments (Schedule DA) .....	45,830,226	73,883,988	119,714,214	85,980,557
7. Derivatives (Schedule DB) .....	79,340	1,427,772	1,507,112	191,479
8. Other invested assets (Schedule BA) .....		641,414	641,414	
9. Securities lending reinvested collateral assets (Schedule DL) .....				
10. Aggregate write-ins for invested assets .....				
11. Subtotals, cash and invested assets (Lines 1 to 10).....	1,215,945,643	3,731,511,915	4,947,457,558	4,842,747,514
12. Investment income due and accrued .....	5,843,915	5,188,325	11,032,240	12,199,127
13. Receivables for securities .....	105,436	16,236,336	16,341,772	3,885,207
14. Net adjustment in assets and liabilities due to foreign exchange rates .....				
15. Aggregate write-ins for other than invested assets .....				
16. Total (Lines 11 to 15)	1,221,894,994	3,752,936,576	4,974,831,570	4,858,831,848
<b>DETAILS OF WRITE-INS</b>				
1001. ....				
1002. ....				
1003. ....				
1098. Summary of remaining write-ins for Line 10 from overflow page .....				
1099. Totals (Lines 1001 thru 1003 plus 1098)(Line 10 above)				
1501. ....				
1502. ....				
1503. ....				
1598. Summary of remaining write-ins for Line 15 from overflow page .....				
1599. Totals (Lines 1501 thru 1503 plus 1598)(Line 15 above)				

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company

**LIABILITIES AND SURPLUS**

	Current Year			Prior Year
	1 General Account Basis	2 Fair Value Basis	3 Total (Cols. 1 + 2)	4 Total
1. Aggregate reserve for life, annuity and accident and health contracts (Exhibit 3, Line 9999999, Col. 2) .....	1,213,596,300	3,739,343,907	4,952,940,207	4,843,657,230
2. Liability for deposit-type contracts (Exhibit 4, Line 9, Col. 1) .....				
3. Interest Maintenance Reserve .....	678,757		678,757	880,287
4. Charges for investment management, administration and contract guarantees due or accrued .....	280,568	312,988	593,556	618,354
5. Investment expenses due or accrued (Exhibit 1, Line 24) .....				
6. Investment taxes, licenses and fees due or accrued, excluding federal income taxes (Exhibit 2, Line 8) .....				
7. Federal and foreign income taxes due or accrued (excluding deferred taxes) .....				
8. Reserve for future federal income taxes .....				
9. Unearned investment income .....				
10. Other transfers to general account due or accrued (net) (including \$ .....408,912 accrued expense allowances recognized in reserves) .....	(23,276,249)	5,708,581	(17,567,668)	(14,410,704)
11. Remittances and items not allocated .....	38,393	166,006	204,399	1,131
12. Derivatives .....	27,366		27,366	85,858
13. Payable for securities .....	30,549,859	6,554,807	37,104,666	27,845,124
14. Payable for securities lending .....				
15. Net adjustment in assets and liabilities due to foreign exchange rates .....				
16. Aggregate write-ins for liabilities .....		850,287	850,287	154,568
17. Total liabilities (including \$ .....(16,974,112) due or accrued net transfers to or (from) the general account) .....	1,221,894,994	3,752,936,576	4,974,831,570	4,858,831,848
18. Contributed surplus .....				
19. Aggregate write-ins for special surplus funds .....				
20. Unassigned funds .....				
21. Surplus (Lines 18 through 20) .....				
22. Totals	1,221,894,994	3,752,936,576	4,974,831,570	4,858,831,848
<b>DETAILS OF WRITE-INS</b>				
1601. Claims in course of settlement .....		840,917	840,917	144,589
1602. Annuitant mortality fluctuation fund .....		9,370	9,370	9,979
1603. ....				
1698. Summary of remaining write-ins for Line 16 from overflow page .....				
1699. Totals (Lines 1601 thru 1603 plus 1698)(Line 16 above)		850,287	850,287	154,568
1901. ....				
1902. ....				
1903. ....				
1998. Summary of remaining write-ins for Line 19 from overflow page .....				
1999. Totals (Lines 1901 thru 1903 plus 1998)(Line 19 above)				

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company

**SUMMARY OF OPERATIONS**

	1 Current Year	2 Prior Year
1. Transfers to Separate Accounts:		
1.1 Net premiums and annuity considerations for life and accident and health contracts	26,138,016	27,732,469
1.2 Considerations for supplementary contracts with life contingencies		
1.3 Aggregate write-ins for other transfers to Separate Accounts		
1.4 Totals (Lines 1.1 to 1.3)	26,138,016	27,732,469
2. Transfers on account of deposit-type contracts (including \$ deposits less \$ withdrawals)		
3. Net investment income and capital gains and losses	267,773,175	348,087,084
4. Aggregate write-ins for other income		
5. Totals (Lines 1.4 to 4)	293,911,191	375,819,553
<b>DEDUCT:</b>		
6. Transfers from the Separate Account on account of contract benefits:		
6.1 Death benefits	67,860,953	39,932,347
6.2 Matured endowments		
6.3 Annuity benefits	1,205,089	1,935,615
6.4 Payments on supplementary contracts with life contingencies		
6.5 Accident and health benefits		
6.6 Surrender benefits and withdrawals for life contracts	40,192,062	32,953,830
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits		
7. Transfers on account of policy loans	3,358,424	2,950,756
8. Net transfer of reserves from or (to) Separate Accounts	2,984,826	(87,013)
9. Other transfers from the Separate Accounts:		
9.1 Federal and foreign income taxes incurred		
9.2 Change in expense allowances recognized in reserves	34,167	(18,699)
9.3 Aggregate write-ins for other transfers from Separate Accounts	8	
10. Subtotals (Lines 6.1 to 9.3)	115,635,529	77,666,836
11. Fees associated with charges for investment management, administration and contract guarantees	68,296,969	67,246,897
12. Increase in aggregate reserve for life and accident and health contracts	109,282,977	231,077,136
13. Increase in liability for deposit-type contracts		
14. Increase in reserve for future federal income taxes		
15. Aggregate write-ins for reserves and funds	695,716	(171,317)
16. Totals (Lines 10 to 15)	293,911,191	375,819,553
17. Net gain from operations (including \$ unrealized capital gains) (Line 5 minus Line 16)		
<b>SURPLUS ACCOUNT</b>		
18. Surplus, December 31, prior year		
19. Net gain from operations (Line 17)		
20. Surplus contributed or (withdrawn) during year		
21. Change in reserve on account of change in valuation basis, (increase) or decrease		
22. Transfer from Separate Accounts of the change in expense allowances recognized in Line 21		
23. Aggregate write-ins for gains and losses in surplus		
24. Surplus, December 31, current year (Page 3, Line 21)		
<b>DETAILS OF WRITE-INS</b>		
01.301.		
01.302.		
01.303.		
01.398. Summary of remaining write-ins for Line 1.3 from overflow page		
01.399. Totals (Lines 01.301 thru 01.303 plus 01.398)(Line 1.3 above)		
0401.		
0402.		
0403.		
0498. Summary of remaining write-ins for Line 4 from overflow page		
0499. Totals (Lines 0401 thru 0403 plus 0498)(Line 4 above)		
06.701.		
06.702.		
06.703.		
06.798. Summary of remaining write-ins for Line 6.7 from overflow page		
06.799. Totals (Lines 06.701 thru 06.703 plus 06.798)(Line 6.7 above)		
09.301. Miscellaneous	8	
09.302.		
09.303.		
09.398. Summary of remaining write-ins for Line 9.3 from overflow page		
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398)(Line 9.3 above)	8	
1501. Claims in course of settlement	696,328	(175,706)
1502. Change in annuitant mortality fluctuation fund	(612)	4,389
1503.		
1598. Summary of remaining write-ins for Line 15 from overflow page		
1599. Totals (Lines 1501 thru 1503 plus 1598)(Line 15 above)	695,716	(171,317)
2301.		
2302.		
2303.		
2398. Summary of remaining write-ins for Line 23 from overflow page		
2399. Totals (Lines 2301 thru 2303 plus 2398)(Line 23 above)		

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company  
**ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - SUMMARY**

	1	2	3	4	5	6	7
	Total	Individual Life	Group Life	Individual Annuities	Group Annuities	Accident and Health	Other Lines of Business
1. Transfers to Separate Accounts:							
1.1 Net premiums and annuity considerations for life and accident and health contracts	26,138,016	26,133,216		4,800			
1.2 Considerations for supplementary contracts with life contingencies		XXX	XXX			XXX	
1.3 Aggregate write-ins for other transfers to Separate Accounts							
1.4 Totals (Lines 1.1 to 1.3)	26,138,016	26,133,216		4,800			
2. Transfers on account of deposit-type contracts (including \$ deposits less \$ withdrawals)							
3. Net investment income and capital gains and losses	267,773,175	230,961,093	29,625,854	7,186,228			
4. Aggregate write-ins for other income							
5. Totals (Lines 1.4 to 4)	293,911,191	257,094,309	29,625,854	7,191,028			
DEDUCT:							
6. Transfers from the Separate Account on account of contract benefits:							
6.1 Death benefits	67,860,953	57,838,299	10,022,654			XXX	
6.2 Matured endowments						XXX	
6.3 Annuity benefits	1,205,089	XXX	XXX	1,205,089		XXX	
6.4 Payments on supplementary contracts with life contingencies		XXX	XXX			XXX	
6.5 Accident and health benefits		XXX	XXX	XXX	XXX		
6.6 Surrender benefits and withdrawals for life contracts	40,192,062	37,221,164		2,970,898		XXX	
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits							
7. Transfers on account of policy loans	3,358,424	3,358,424				XXX	
8. Net transfer of reserves from or (to) Separate Accounts	2,984,826	3,304,395	(396,553)	76,984			
9. Other transfers from the Separate Accounts:							
9.1 Federal and foreign income taxes incurred						XXX	
9.2 Change in expense allowances recognized in reserves	34,167	36,677		(2,510)		XXX	
9.3 Aggregate write-ins for other transfers from Separate Accounts	8	8					
10. Subtotals (Lines 6.1 to 9.3)	115,635,529	101,758,967	9,626,101	4,250,461			
11. Fees associated with charges for investment management, administration and contract guarantees	68,296,969	61,492,505	6,205,653	598,811			
12. Increase in aggregate reserve for life and accident and health contracts	109,282,977	93,146,509	13,794,100	2,342,368			
13. Increase in liability for deposit-type contracts						XXX	
14. Increase in reserve for future federal income taxes							
15. Aggregate write-ins for reserves and funds	695,716	696,328		(612)			
16. Totals (Lines 10 to 15)	293,911,191	257,094,309	29,625,854	7,191,028			
17. Net gain from operations (including \$ unrealized capital gains) (Line 5 minus Line 16)							
18. Policies/certificates in force end of year	29,664	26,105	3,041	518			
<b>DETAILS OF WRITE-INS</b>							
01.301.							
01.302.							
01.303.							
01.398. Summary of remaining write-ins for Line 1.3 from overflow page							
01.399. Totals (Lines 01.301 thru 01.303 plus 01.398) (Line 1.3 above)							
0401.							
0402.							
0403.							
0498. Summary of remaining write-ins for Line 4 from overflow page							
0499. Totals (Lines 0401 thru 0403 plus 0498) (Line 4 above)							
06.701.							
06.702.							
06.703.							
06.798. Summary of remaining write-ins for Line 6.7 from overflow page							
06.799. Totals (Lines 06.701 thru 06.703 plus 06.798) (Line 6.7 above)							
09.301. Miscellaneous	8	8					
09.302.							
09.303.							
09.398. Summary of remaining write-ins for Line 9.3 from overflow page							
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398) (Line 9.3 above)	8	8					
1501. Claims in course of settlement	696,328	696,328					
1502. Change in annuitant mortality fluctuation fund	(612)			(612)			
1503.							
1598. Summary of remaining write-ins for Line 15 from overflow page							
1599. Totals (Lines 1501 thru 1503 plus 1598) (Line 15 above)	695,716	696,328		(612)			

**ANNUAL STATEMENT FOR THE YEAR 2021 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company**  
**ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - INDIVIDUAL LIFE INSURANCE (b)**

	1	2	3	4	5	6	7	8	9	10	11
	Total	Industrial Life	Whole Life	Term Life	Indexed Life	Universal Life	Universal Life with Secondary Guarantees	Variable Life	Variable Universal Life	Credit Life (N/A Fraternal)	Other Individual Life
1. Transfers to Separate Accounts:											
1.1 Net premiums for life contracts (a)	26,133,216	XXX						164,365	25,968,851	XXX	
1.2 Considerations for supplementary contracts with life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
1.3 Aggregate write-ins for other transfers to Separate Accounts		XXX							XXX	XXX	
1.4 Totals (Lines 1.1 to 1.3)	26,133,216	XXX						164,365	25,968,851	XXX	
2. Transfers on account of deposit-type contracts (including \$ deposits less \$ withdrawals)		XXX								XXX	
3. Net investment income and capital gains and losses	230,961,093	XXX						2,439,140	228,521,953	XXX	
4. Aggregate write-ins for other income		XXX							XXX	XXX	
5. Totals (Lines 1.4 to 4)	257,094,309	XXX						2,603,505	254,490,804	XXX	
DEDUCT:											
6. Transfers from the Separate Account on account of contract benefits:											
6.1 Death benefits	57,838,299	XXX						29,015	57,809,284	XXX	
6.2 Matured endowments		XXX							XXX	XXX	
6.3 Annuity benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.4 Payments on supplementary contracts with life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.5 Accident and health benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.6 Surrender benefits and withdrawals for life contracts	37,221,164	XXX						965,717	36,255,447	XXX	
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits		XXX							XXX	XXX	
7. Transfers on account of policy loans	3,358,424	XXX						(195,342)	3,553,766	XXX	
8. Net transfer of reserves from or (to) Separate Accounts	3,304,395	XXX						(1,261)	3,305,656	XXX	
9. Other transfers from the Separate Accounts:											
9.1 Federal and foreign income taxes incurred		XXX								XXX	
9.2 Change in expense allowances recognized in reserves	36,677	XXX							36,677	XXX	
9.3 Aggregate write-ins for other transfers from Separate Accounts	8	XXX						8		XXX	
10. Subtotals (Lines 6.1 to 9.3)	101,758,967	XXX						798,137	100,960,830	XXX	
11. Fees associated with charges for investment management, administration and contract guarantees	61,492,505	XXX						263,243	61,229,262	XXX	
12. Increase in aggregate reserve for life and accident and health contracts	93,146,509	XXX						1,542,125	91,604,384	XXX	
13. Increase in liability for deposit-type contracts		XXX							XXX	XXX	
14. Increase in reserve for future federal income taxes		XXX							XXX	XXX	
15. Aggregate write-ins for reserves and funds	696,328	XXX							696,328	XXX	
16. Totals (Lines 10 to 15)	257,094,309	XXX						2,603,505	254,490,804	XXX	
17. Net gain from operations (including \$ unrealized capital gains) (Line 5 minus Line 16)		XXX								XXX	
18. Policies/certificates in force end of year	26,105	XXX						147	25,958	XXX	
<b>DETAILS OF WRITE-INS</b>											
01.301.		XXX								XXX	
01.302.		XXX								XXX	
01.303.		XXX								XXX	
01.398. Summary of remaining write-ins for Line 1.3 from overflow page		XXX								XXX	
01.399. Totals (Lines 01.301 thru 01.303 plus 01.398) (Line 1.3 above)		XXX								XXX	
0401.		XXX								XXX	
0402.		XXX								XXX	
0403.		XXX								XXX	
0498. Summary of remaining write-ins for Line 4 from overflow page		XXX								XXX	
0499. Totals (Lines 0401 thru 0403 plus 0498) (Line 4 above)		XXX								XXX	
06.701.		XXX								XXX	
06.702.		XXX								XXX	
06.703.		XXX								XXX	
06.798. Summary of remaining write-ins for Line 6.7 from overflow page		XXX								XXX	
06.799. Totals (Lines 06.701 thru 06.703 plus 06.798) (Line 6.7 above)		XXX								XXX	
09.301. Miscellaneous	8	XXX						8		XXX	
09.302.		XXX								XXX	
09.303.		XXX								XXX	
09.398. Summary of remaining write-ins for Line 9.3 from overflow page		XXX								XXX	
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398) (Line 9.3 above)	8	XXX						8		XXX	
1501. Claims in course of settlement	696,328	XXX							696,328	XXX	
1502.		XXX								XXX	
1503.		XXX								XXX	
1598. Summary of remaining write-ins for Line 15 from overflow page		XXX								XXX	
1599. Totals (Lines 1501 thru 1503 plus 1598) (Line 15 above)	696,328	XXX							696,328	XXX	

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

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

**ANNUAL STATEMENT FOR THE YEAR 2021 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company**  
**ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - GROUP LIFE INSURANCE (c)**  
**(N/A Fraternal)**

	1	2	3	4	5	6	7	8
	Total	Whole Life	Term Life	Variable Life	Universal Life	Variable Universal Life	Credit Life	Other Group Life (a)
1. Transfers to Separate Accounts:								
1.1 Net premiums for life contracts (b)	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
1.2 Considerations for supplementary contracts with life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
1.3 Aggregate write-ins for other transfers to Separate Accounts	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
1.4 Totals (Lines 1.1 to 1.3)	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2. Transfers on account of deposit-type contracts (including \$ deposits less \$ withdrawals)							XXX	
3. Net investment income and capital gains and losses	29,625,854					29,625,854	XXX	
4. Aggregate write-ins for other income							XXX	
5. Totals (Lines 1.4 to 4)	29,625,854					29,625,854	XXX	
DEDUCT:								
6. Transfers from the Separate Account on account of contract benefits:								
6.1 Death benefits	10,022,654					10,022,654	XXX	
6.2 Matured endowments							XXX	
6.3 Annuity benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.4 Payments on supplementary contracts with life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.5 Accident and health benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.6 Surrender benefits and withdrawals for life contracts							XXX	
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits							XXX	
7. Transfers on account of policy loans							XXX	
8. Net transfer of reserves from or (to) Separate Accounts	(396,553)					(396,553)	XXX	
9. Other transfers from the Separate Accounts:								
9.1 Federal and foreign income taxes incurred							XXX	
9.2 Change in expense allowances recognized in reserves							XXX	
9.3 Aggregate write-ins for other transfers from Separate Accounts							XXX	
10. Subtotals (Lines 6.1 to 9.3)	9,626,101					9,626,101	XXX	
11. Fees associated with charges for investment management, administration and contract guarantees	6,205,653					6,205,653	XXX	
12. Increase in aggregate reserve for life and accident and health contracts	13,794,100					13,794,100	XXX	
13. Increase in liability for deposit-type contracts							XXX	
14. Increase in reserve for future federal income taxes							XXX	
15. Aggregate write-ins for reserves and funds							XXX	
16. Totals (Lines 10 to 15)	29,625,854					29,625,854	XXX	
17. Net gain from operations (including \$ unrealized capital gains) (Line 5 minus Line 16)							XXX	
18. Policies/certificates in force end of year	3,041					3,041	XXX	
<b>DETAILS OF WRITE-INS</b>								
01.301.							XXX	
01.302.							XXX	
01.303.							XXX	
01.398. Summary of remaining write-ins for Line 1.3 from overflow page							XXX	
01.399. Totals (Lines 01.301 thru 01.303 plus 01.398) (Line 1.3 above)							XXX	
0401.							XXX	
0402.							XXX	
0403.							XXX	
0498. Summary of remaining write-ins for Line 4 from overflow page							XXX	
0499. Totals (Lines 0401 thru 0403 plus 0498) (Line 4 above)							XXX	
06.701.							XXX	
06.702.							XXX	
06.703.							XXX	
06.798. Summary of remaining write-ins for Line 6.7 from overflow page							XXX	
06.799. Totals (Lines 06.701 thru 06.703 plus 06.798) (Line 6.7 above)							XXX	
09.301.							XXX	
09.302.							XXX	
09.303.							XXX	
09.398. Summary of remaining write-ins for Line 9.3 from overflow page							XXX	
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398) (Line 9.3 above)							XXX	
1501.							XXX	
1502.							XXX	
1503.							XXX	
1598. Summary of remaining write-ins for Line 15 from overflow page							XXX	
1599. Totals (Lines 1501 thru 1503 plus 1598) (Line 15 above)							XXX	

(a) Includes the following amounts for FEGLI/SGLI: Line 1, Line 10, Line 16, Line 23, Line 24

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

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

**ANNUAL STATEMENT FOR THE YEAR 2021 OF THE SEPARATE ACCOUNTS 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		
1. Transfers to Separate Accounts:						
1.1 Net annuity considerations for annuity contracts	4,800			4,800		
1.2 Considerations for supplementary contracts with life contingencies		XXX	XXX	XXX	XXX	XXX
1.3 Aggregate write-ins for other transfers to Separate Accounts						
1.4 Totals (Lines 1.1 to 1.3)	4,800			4,800		
2. Transfers on account of deposit-type contracts (including \$ deposits less \$ withdrawals)						
3. Net investment income and capital gains and losses	7,186,228			7,186,228		
4. Aggregate write-ins for other income						
5. Totals (Lines 1.4 to 4)	7,191,028			7,191,028		
DEDUCT:						
6. Transfers from the Separate Account on account of contract benefits:						
6.1 Death benefits						
6.2 Matured endowments						
6.3 Annuity benefits	1,205,089			1,205,089		
6.4 Payments on supplementary contracts with life contingencies		XXX	XXX	XXX	XXX	XXX
6.5 Accident and health benefits	XXX	XXX	XXX	XXX	XXX	XXX
6.6 Surrender benefits and withdrawals for life contracts	2,970,898			2,970,898		
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits						
7. Transfers on account of policy loans						
8. Net transfer of reserves from or (to) Separate Accounts	76,984			76,984		
9. Other transfers from the Separate Accounts:						
9.1 Federal and foreign income taxes incurred						
9.2 Change in expense allowances recognized in reserves	(2,510)			(2,510)		
9.3 Aggregate write-ins for other transfers from Separate Accounts						
10. Subtotals (Lines 6.1 to 9.3)	4,250,461			4,250,461		
11. Fees associated with charges for investment management, administration and contract guarantees	598,811			598,811		
12. Increase in aggregate reserve for life and accident and health contracts	2,342,388			2,342,388		
13. Increase in liability for deposit-type contracts						
14. Increase in reserve for future federal income taxes						
15. Aggregate write-ins for reserves and funds	(612)			(612)		
16. Totals (Lines 10 to 15)	7,191,028			7,191,028		
17. Net gain from operations (including \$ unrealized capital gains) (Line 5 minus Line 16)						
18. Policies/certificates in force end of year	518			518		
<b>DETAILS OF WRITE-INS</b>						
01.301.						
01.302.						
01.303.						
01.398. Summary of remaining write-ins for Line 1.3 from overflow page						
01.399. Totals (Lines 01.301 thru 01.303 plus 01.398) (Line 1.3 above)						
0401.						
0402.						
0403.						
0498. Summary of remaining write-ins for Line 4 from overflow page						
0499. Totals (Lines 0401 thru 0403 plus 0498) (Line 4 above)						
06.701.						
06.702.						
06.703.						
06.798. Summary of remaining write-ins for Line 6.7 from overflow page						
06.799. Totals (Lines 06.701 thru 06.703 plus 06.798) (Line 6.7 above)						
09.301.						
09.302.						
09.303.						
09.398. Summary of remaining write-ins for Line 9.3 from overflow page						
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398) (Line 9.3 above)						
1501. Change in annuitant mortality fluctuation fund	(612)			(612)		
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)	(612)			(612)		

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



Analysis of Operations by Lines of Business - Group Annuities

**N O N E**

Analysis of Operations by Lines of Business - Accident and Health

**N O N E**

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company  
**ANALYSIS OF INCREASE IN RESERVES DURING THE YEAR - INDIVIDUAL LIFE INSURANCE (a)**

	1	2	3	4	5	6	7	8	9	10	11
	Total	Industrial Life	Whole Life	Term Life	Indexed Life	Universal Life	Universal Life With Secondary Guarantees	Variable Life	Variable Universal Life	Credit Life (N/A Fraternal)	Other Individual Life
1. Reserve December 31 of prior year	3,604,193,247	XXX						11,014,665	3,593,178,582	XXX	
2. Tabular net premiums and considerations for annuities and supplementary contracts with life contingencies	26,133,216	XXX						164,365	25,968,851	XXX	
3. Increase or (decrease) from investment results after provision for federal income taxes	230,961,093	XXX						2,439,140	228,521,953	XXX	
4. Tabular less actual reserve released		XXX								XXX	
5. Increase in reserve on account of change in valuation basis		XXX								XXX	
5.1 Change in excess of VM-20 deterministic/stochastic reserve over net premium reserve		XXX								XXX	
6. Other increases (net)	(7)	XXX						(7)		XXX	
7. Totals (Lines 1 to 6)	3,861,287,549	XXX						13,618,163	3,847,669,386	XXX	
8. Net transfer of reserves from or (to) Separate Accounts	3,304,395	XXX						(1,261)	3,305,656	XXX	
9. Tabular cost	47,867,604	XXX						263,243	47,604,361	XXX	
10. Reserves released by death	57,838,299	XXX						29,015	57,809,284	XXX	
11. Reserves released by other terminations (net)	37,221,164	XXX						965,717	36,255,447	XXX	
12. Transfers on account of annuity and supplementary contract payments involving life contingencies	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
13. Charges for investment management, administration and contract guarantees	13,624,901	XXX							13,624,901	XXX	
14. Aggregate write-ins for other decreases in reserves	4,091,430	XXX						(195,341)	4,286,771	XXX	
15. Total deductions (Lines 8 to 14)	163,947,793	XXX						1,061,373	162,886,420	XXX	
16. Reserve December 31 of current year	3,697,339,756	XXX						12,556,790	3,684,782,966	XXX	
<b>Cash Surrender Value and Policy Loans</b>											
17. CSV ending balance December 31, current year	3,691,636,703	XXX						7,826,598	3,683,810,105	XXX	
18. Amount available for policy loans based upon Line 17 CSV	2,953,309,362	XXX						6,261,278	2,947,048,084	XXX	
<b>DETAILS OF WRITE-INS</b>											
1401. Change in policy loans	3,358,425	XXX						(195,341)	3,553,766	XXX	
1402. Claims in course of settlement	696,328	XXX							696,328	XXX	
1403. Change in surrender charge offset	36,677	XXX							36,677	XXX	
1498. Summary of remaining write-ins for Line 14 from overflow page		XXX								XXX	
1499. TOTALS (Lines 1401 thru 1403 plus 1498) (Line 14 above)	4,091,430	XXX						(195,341)	4,286,771	XXX	

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

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company  
**ANALYSIS OF INCREASE IN RESERVES DURING THE YEAR - GROUP LIFE INSURANCE (a)**  
**(N/A Fraternal)**

	1	2	3	4	5	6	7	8
	Total	Whole Life	Term Life	Universal Life	Variable Life	Variable Universal Life	Credit Life	Other Group Life
1. Reserve December 31 of prior year .....	1,199,802,200					1,199,802,200	XXX	
2. Tabular net premiums and considerations .....							XXX	
3. Increase or (decrease) from investment results after provision for federal income taxes .....	29,625,854					29,625,854	XXX	
4. Tabular less actual reserve released .....							XXX	
5. Increase in reserve on account of change in valuation basis .....							XXX	
6. Other increases (net) .....							XXX	
7. Totals (Lines 1 to 6) .....	1,229,428,054					1,229,428,054	XXX	
8. Net transfer of reserves from or (to) Separate Accounts .....	(396,553)					(396,553)	XXX	
9. Tabular cost .....						XXX	XXX	
10. Reserves released by death .....	10,022,654					10,022,654	XXX	
11. Reserves released by other terminations (net) .....							XXX	
12. Transfers on account of annuity and supplementary contract payments involving life contingencies .....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
13. Charges for investment management, administration and contract guarantees .....	6,205,653					6,205,653	XXX	
14. Aggregate write-ins for other decreases in reserves .....							XXX	
15. Total deductions (Lines 8 to 14) .....	15,831,754					15,831,754	XXX	
16. Reserve December 31 of current year .....	1,213,596,300					1,213,596,300	XXX	
<b>Cash Surrender Value and Policy Loans</b>								
17. CSV ending balance December 31, current year .....	1,189,906,169					1,189,906,169	XXX	
18. Amount available for policy loans based upon line 17 CSV .....	951,924,935					951,924,935	XXX	
<b>DETAILS OF WRITE-INS</b>								
1401. ....							XXX	
1402. ....							XXX	
1403. ....							XXX	
1498. Summary of remaining write-ins for Line 14 from overflow page .....							XXX	
1499. TOTALS (Lines 1401 thru 1403 plus 1498) (Line 14 above) .....							XXX	

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

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company  
**ANALYSIS OF INCREASE IN RESERVES DURING THE YEAR - INDIVIDUAL ANNUITIES (a)**

	1 Total	Deferred				6 Life Contingent Payout (Immediate and Annuitizations)	7 Other Annuities
		2 Fixed Annuities	3 Indexed Annuities	4 Variable Annuities With Guarantees	5 Variable Annuities Without Guarantees		
1. Reserve December 31 of prior year .....	39,661,784			39,661,784			
2. Tabular net premiums and considerations .....	4,800			4,800			
3. Increase or (decrease) from investment results after provision for federal income taxes .....	7,186,228			7,186,228			
4. Tabular less actual reserve released .....							
5. Increase in reserve on account of change in valuation basis .....							
6. Other increases (net) .....							
7. Totals (Lines 1 to 6) .....	46,852,812			46,852,812			
8. Net transfer of reserves from or (to) Separate Accounts .....	76,984			76,984			
9. Tabular cost .....							
10. Reserves released by death .....	.XXX	.XXX	.XXX	.XXX	.XXX	.XXX	.XXX
11. Reserves released by other terminations (net) .....	2,970,898			2,970,898			
12. Transfers on account of annuity and supplementary contract payments involving life contingencies .....	1,205,089			1,205,089			
13. Charges for investment management, administration and contract guarantees .....	598,811			598,811			
14. Aggregate write-ins for other decreases in reserves .....	(3,121)			(3,121)			
15. Total deductions (Lines 8 to 14) .....	4,848,661			4,848,661			
16. Reserve December 31 of current year .....	42,004,151			42,004,151			
<b>Cash Surrender Value and Policy Loans</b>							
17. CSV ending balance December 31, current year .....	41,690,312			41,690,312			
18. Amount available for policy loans based upon line 17 CSV .....							
<b>DETAILS OF WRITE-INS</b>							
1401. Change in surrender charge offset .....	(2,510)			(2,510)			
1402. Change in annuitant mortality fluctuation fund .....	(611)			(611)			
1403. ....							
1498. Summary of remaining write-ins for Line 14 from overflow page .....							
1499. TOTALS (Lines 1401 thru 1403 plus 1498) (Line 14 above) .....	(3,121)			(3,121)			

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

Analysis of Increase in Reserves During the Year - Group Annuities

**N O N E**

Analysis of Reserves During the Year - Accident and Health

**N O N E**

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company

**EXHIBIT OF NET INVESTMENT INCOME**

	1 Collected During Year	2 Earned During Year
1. U.S. Government bonds	(a) 12,264,461	11,873,003
1.1 Bonds exempt from U.S. tax	(a)	
1.2 Other bonds (unaffiliated)	(a) 75,987,827	75,231,798
1.3 Bonds of affiliates	(a)	
2.1 Preferred stocks (unaffiliated)	(b)	
2.11 Preferred stocks of affiliates	(b)	
2.2 Common stocks (unaffiliated)		97,831,014
2.21 Common stocks of affiliates		97,831,014
3. Mortgage loans	(c) 462,320	455,168
4. Real estate	(d)	
5. Contract loans		
6. Cash, cash equivalents and short-term investments	(e) 55,558	43,312
7. Derivative instruments	(f) (1,500,726)	(1,500,726)
8. Other invested assets	28,081	28,081
9. Aggregate write-ins for investment income	(2,449,989)	(2,449,989)
10. Total gross investment income	182,678,547	181,511,660
11. Investment expenses		(g)
12. Investment taxes, licenses and fees, excluding federal income taxes		(g)
13. Interest expense		(h)
14. Depreciation on real estate and other invested assets		(i)
15. Aggregate write-ins for deductions from investment income		
16. Total deductions (Lines 11 through 15)		
17. Net investment income (Line 10 minus Line 16)		181,511,660
<b>DETAILS OF WRITE-INS</b>		
0901. Miscellaneous	(2,651,519)	(2,651,519)
0902. Amortization of IMR	201,530	201,530
0903.		
0998. Summary of remaining write-ins for Line 9 from overflow page		
0999. Totals (Lines 0901 thru 0903 plus 0998) (Line 9, above)	(2,449,989)	(2,449,989)
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 \$ 799,899 accrual of discount less \$ 3,237,083 amortization of premium and less \$ 1,980,848 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 \$ 1,571 accrual of discount less \$ 26,318 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 \$ 11,988 accrual of discount less \$ 5,783 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	(2,146,319)		(2,146,319)	(6,957,464)	
1.1 Bonds exempt from U.S. tax					
1.2 Other bonds (unaffiliated)	(12,099,479)		(12,099,479)	(67,113,824)	
1.3 Bonds of affiliates					
2.1 Preferred stocks (unaffiliated)					
2.11 Preferred stocks of affiliates					
2.2 Common stocks (unaffiliated)	46,558,268		46,558,268	127,276,494	
2.21 Common stocks of affiliates					
3. Mortgage loans					
4. Real estate					
5. Contract loans					
6. Cash, cash equivalents and short-term investments	184,362		184,362		
7. Derivative instruments	(814,586)		(814,586)	1,374,125	
8. Other invested assets	1,867		1,867	(1,930)	
9. Aggregate write-ins for capital gains (losses)					
10. Total capital gains (losses)	31,684,113		31,684,113	54,577,401	
<b>DETAILS OF WRITE-INS</b>					
0901.					
0902.					
0903.					
0998. Summary of remaining write-ins for Line 9 from overflow page					
0999. Totals (Lines 0901 thru 0903 plus 0998) (Line 9, above)					

Exhibit 1

**NONE**

Exhibit 2

**NONE**

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

1	2	3	4
Description of Valuation Basis	Total <sup>(a)</sup>	Ordinary	Group
0100001. 58 CSO 4.00% Mod CRVM (issued 1983 to 1988)	12,556,790	12,556,790	
0100002. 80 CSO 5.50% CRVM (issued 1988 to 1992)	225,282,580	225,282,580	
0100003. 80 CSO 5.00% CRVM (issued 1993 to 1994)	739,437,599	739,437,599	
0100004. 80 CSO Account Value	3,933,659,087	2,720,062,787	1,213,596,300
0199999. Life Insurance: Totals	4,910,936,056	3,697,339,756	1,213,596,300
0200001. Deferred Annuity 4.75%-6.50% CARVM	41,691,825	41,691,825	
0200002. Annuity Reserve 4.00 % VA Valuation 82	312,326	312,326	
0299999. Annuities: Totals	42,004,151	42,004,151	
9999999. Totals (to Page 3, Line 1)	4,952,940,207	3,739,343,907	1,213,596,300

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

**EXHIBIT 3 - INTERROGATORIES**

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

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

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

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



Exhibit 4

**NONE**

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company

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

DEVELOPMENT OF INCREASE IN CASH		1 Amount
1. Transfers to Separate Accounts on account of:		
1.1 Net premiums and considerations for annuities and supplementary contracts with life contingencies		26,138,016
1.2 Aggregate write-ins for other transfers to Separate Accounts		
2. Deposits on deposit-type contract funds and other liabilities without life or disability contingencies		182,678,547
3. Investment income collected		(33,582,396)
4. Consideration on disposal of short-term bonds net of purchases		1,404,630,421
5. Consideration on disposal of investments (excluding short-term bonds)		
6. Aggregate write-ins for other increases in funds from operations		
7. Total (Lines 1 to 6)		1,579,864,588
8. Cost of investments acquired (excluding short-term bonds)		1,364,560,916
9. Transfers from Separate Accounts on account of contract benefits:		
9.1 Death benefits		64,601,157
9.2 Matured endowments		
9.3 Annuity benefits		1,205,089
9.4 Supplementary contract benefits with life contingencies		
9.5 Accident and health benefits		
9.6 Surrender benefits and withdrawals for life contracts		40,192,062
9.7 Policy loans (net)		3,358,424
9.8 Transfers of reserves (net)		9,096,255
9.9 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits		
10. Other transfers from Separate Accounts:		
10.1 Federal income taxes		
10.2 Aggregate write-ins for other transfers from Separate Accounts		827,484
11. Withdrawals on deposit-type contract funds and other liabilities without life or disability contingencies		
12. Investment expenses (Exhibit 1, Line 25)		
12.1 Fees associated with investment management, administration and contract guarantees		68,321,768
13. Investment taxes, licenses and fees, excluding federal income taxes (Exhibit 2, Line 9)		
14. Total (Lines 8 to 13)		1,552,163,155
15. Funds from operations (Line 7 minus Line 14)		27,701,433
16. Surplus contributed or (withdrawn) during year		
17. Aggregate write-ins for other changes in funds		
18. Total funds (includes \$ 160,636,739 net transfers from general account) (Lines 15 to 17)		27,701,433
19. Increase in payable for investments acquired, net of receivable for investments sold		(3,197,023)
20. Decrease in policy loans		
21. Aggregate write-ins for other reconciling items		
22. Increase in cash (Line 18 to 21)		24,504,410
<b>RECONCILIATION BETWEEN YEARS</b>		
23. Cash and invested assets, December 31st of prior year		4,842,747,514
24. Increase in cash (Line 22)		24,504,410
25. Cost of invested assets acquired		1,732,080,713
26. Adjusted cost of assets disposed of		1,703,996,357
27. Increase in policy loans		
28. Accrual of discount less amortization of premium		(2,456,123)
29. Depreciation on real estate and other invested assets		
30. Increase in net unrealized gains		54,577,401
31. Aggregate write-ins for other reconciling items		
32. Cash and invested assets, December 31st of current year		4,947,457,558
<b>DETAILS OF WRITE-INS</b>		
01.201.		
01.202.		
01.203.		
01.298. Summary of remaining write-ins for Line 1.2 from overflow page		
01.299. Totals (Lines 01.201 thru 01.203 plus 01.298) (Line 1.2 above)		
0601.		
0602.		
0603.		
0698. Summary of remaining write-ins for Line 6 from overflow page		
0699. Totals (Lines 0601 thru 0603 plus 0698) (Line 6 above)		
09.901.		
09.902.		
09.903.		
09.998. Summary of remaining write-ins for Line 9.9 from overflow page		
09.999. Totals (Lines 09.901 thru 09.903 plus 09.998) (Line 9.9 above)		
10.201. Investment income recognized as a result of prepayment penalties and/or acceleration fees		691,251
10.202. Other Transfers to General Account		339,497
10.203. Miscellaneous		8
10.298. Summary of remaining write-ins for Line 10.2 from overflow page		(203,272)
10.299. Totals (Lines 10.201 thru 10.203 plus 10.298) (Line 10.2 above)		827,484
1701.		
1702.		
1703.		
1798. Summary of remaining write-ins for Line 17 from overflow page		
1799. Totals (Lines 1701 thru 1703 plus 1798) (Line 17 above)		
2101.		
2102.		
2103.		
2198. Summary of remaining write-ins for Line 21 from overflow page		
2199. Totals (Lines 2101 thru 2103 plus 2198) (Line 21 above)		
3101.		
3102.		
3103.		
3198. Summary of remaining write-ins for Line 31 from overflow page		
3199. Totals (Lines 3101 thru 3103 plus 3198) (Line 31 above)		

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

	1 Amount	2 Percent of Total
1. Aggregate reserve for life, annuity and accident and health contracts (Included in Exhibit 3):		
1.1 Life insurance .....	1,213,596,300	24.4
1.2 Annuities .....		
1.3 Supplementary contracts with life contingencies .....		
1.4 Accident and health .....		
1.5 Miscellaneous reserves .....		
1.6 Total .....	1,213,596,300	24.4
2. Liability for deposit-type contracts (included in Exhibit 4):		
2.1 Guaranteed interest contracts .....		
2.2 Annuities certain .....		
2.3 Supplemental contracts .....		
2.4 Dividend accumulations or refunds .....		
2.5 Premium and other deposit funds .....		
2.6 Total .....		
3. Other liabilities (included in Page 3, Lines 4, 10, 13 & 14) .....	7,554,178	0.2
4. Total liabilities associated with guarantees (Lines 1.6 + 2.6 + 3) .....	1,221,150,478	24.5
5. Total liabilities not associated with guarantees .....	3,753,681,092	75.5
6. Total Separate Accounts liabilities (Lines 4 + 5 = Page 3, Line 17)	4,974,831,570	100.0%

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company

## GENERAL INTERROGATORIES

**Product Mix**

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

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

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

1 Product Identifier	Separate Account Assets		4 Guarantees Associated with the Product Yes/No	5 Seed Money	6 Fees and Expenses Due to the General Account	7 Additional Required Surplus Amounts	Not Registered with SEC		
	2 Registered with SEC	3 Not Registered with SEC					Private Placement Variable Annuity	Private Placement Life Insurance	Other (Not PPVA or PPLI)
1.01A0001 Pension Risk Transfer Group Annuities									
1.01A9999 Total Pension Risk Transfer Group Annuities			XXX						
1.01B0001 All Other Group Annuities									
1.01B9999 Total All Other Group Annuities			XXX						
1.01C0001 Registered Index Linked Annuities Individual Annuities									
1.01C9999 Total Registered Index Linked Annuities Individual Annuities			XXX						
1.01D0001 All Other Individual Annuities									
Individual Variable Annuity .....	42,024,266		YES						
1.01D9999 Total All Other Individual Annuities	42,024,266		XXX						
1.01E0001 Life Insurance									
Individual Variable Universal Life ..	978,514,474		YES						
Bank-owned Life Insurance - Guaranteed .....		1,221,894,993	YES		20,104,699				1,221,894,993
Corporate-owned Life Insurance .....		434,536,925	YES						434,536,925
Stable Value Bank-owned Life Insurance .....		2,297,860,912	YES						2,297,860,912
1.01E9999 Total Life Insurance	978,514,474	3,954,292,830	XXX		20,104,699				3,954,292,830
1.01F9999 Totals	1,020,538,740	3,954,292,830	XXX		20,104,699				3,954,292,830

- 1.02 Did the reporting entity remit seed money, other fees and expenses or additional required surplus amounts to the general account during the current year? ..... Yes [ X ] No [ ]
- 1.03 If yes, provide information on the total gross amount of seed money, other fees and expenses or additional required surplus amounts remitted to the general account during the current year (these amounts should not be reflected in the seed money totals in 1.01):
- 1.031 Seed Money.....\$ .....
- 1.032 Other Fees and Expenses.....\$ .....183,817
- 1.033 Additional Required Surplus Amounts ..\$ .....
- 1.04 Did the reporting entity receive seed money from the general account in the current year? ..... Yes [ ] No [ X ]
- 1.05 If yes, provide information on the total gross amount of seed money received in the current year: (If amounts were both received and remitted in the current year, include the gross amounts in both 1.031 and 1.051.)
- 1.051 Seed Money Received.....\$ .....
- 1.06 Does the reporting entity consider any of the seed money reflected in separate accounts to be insulated from the general account? ..... Yes [ ] No [ ] N/A [ X ]
- 1.07 If yes, provide information on the amount of seed money the reporting entity considers insulated from the general account:
- 1.071 Insulated Seed Money .....\$ .....

ANNUAL STATEMENT FOR THE YEAR 2021 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company

**GENERAL INTERROGATORIES**

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

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

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

	1 Seed Money	2 Fees and Expenses Due to the General Account	3 Additional Required Surplus Amounts
1.091 Under 1 Year .....			
1.092 1 Year - 3 Years .....			
1.093 Over 3 Years - 5 Years .....		20,104,698	
1.094 Over 5 Years .....			
1.095 Total		20,104,698	

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

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

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

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

**Separate Account Products with General Account Guarantees**

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

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

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

	1 Year	2 Amount
2.301 As of December 31, 2021 .....		\$ 158,161
2.302 As of December 31, 2020 .....		\$ 107,117
2.303 As of December 31, 2019 .....		\$ 97,757
2.304 As of December 31, 2018 .....		\$ 322,625
2.305 As of December 31, 2017 .....		\$ 278,674

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

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

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

## GENERAL INTERROGATORIES

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

	1 Year	2 Amount
2.601	As of December 31, 2021	\$ .....
2.602	As of December 31, 2020	\$ .....
2.603	As of December 31, 2019	\$ .....
2.604	As of December 31, 2018	\$ .....
2.605	As of December 31, 2017	\$ .....

**Investment Directive of Separate Account Activity**

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

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

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

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

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

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

## GENERAL INTERROGATORIES

**Measurement of Separate Account Assets**

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

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

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

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

Description	1 Amount	2 Percentage
5.41 Fair Value .....	\$ 3,923,082,501	78.9 %
5.42 Amortized Cost .....	\$ 1,051,749,069	21.1 %
5.43 Other Measurement Methods .....	\$ .....	%

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

1 Assets Held at Amortized Cost	2 Fair Value	3 Unrecorded Unrealized Gain/Loss
5.51 \$ 1,051,749,069	\$ 1,080,516,368	\$ 28,767,299

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

**Securities Lending Transactions Within Separate Accounts**

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

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

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

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

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

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

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

6.63 Detail on collateral received:

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

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

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

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

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

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

## GENERAL INTERROGATORIES

**FHLB Funding Agreements**

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

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

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

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

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

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

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

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

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

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

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



**FORM FOR CALCULATING THE INTEREST MAINTENANCE RESERVE**

**INTEREST MAINTENANCE RESERVE**

	1 Amount
1. Reserve as of December 31, Prior Year .....	880,287
2. Current year's realized pre-tax capital gains/(losses) of \$ ..... 3,024,968 transferred into the reserve net of taxes of \$ ..... (1,058,739) .....	1,966,229
3. Adjustment for current year's liability gains/(losses) released from the reserve .....	(1,966,229)
4. Balance before reduction for amount transferred to Summary of Operations (Line 1 + Line 2 + Line 3) .....	880,287
5. Current year's amortization released to Summary of Operations (Amortization, Line 1, Column 4) .....	201,530
6. Reserve as of December 31, current year (Line 4 minus Line 5)	678,757

**AMORTIZATION**

Year of Amortization	1 Reserve as of December 31, Prior Year	2 Current Year's Realized Capital Gains/(Losses) Transferred into the Reserve Net of Taxes	3 Adjustment for Current Year's Liability Gains/(Losses) Released From the Reserve	4 Balance Before Reduction for Current Year's Amortization (Cols. 1 + 2 + 3)
1. 2021 .....	201,526	604,959	(604,955)	201,530
2. 2022 .....	205,545	544,810	(544,814)	205,541
3. 2023 .....	218,817	317,350	(317,350)	218,817
4. 2024 .....	220,096	239,926	(239,926)	220,096
5. 2025 .....	192,984	158,577	(158,577)	192,984
6. 2026 .....	147,494	74,958	(74,958)	147,494
7. 2027 .....	92,398	33,284	(33,284)	92,398
8. 2028 .....	31,684	28,969	(28,969)	31,684
9. 2029 .....	(24,188)	24,389	(24,389)	(24,188)
10. 2030 .....	(47,764)	22,264	(22,264)	(47,764)
11. 2031 .....	(54,315)	19,226	(19,226)	(54,315)
12. 2032 .....	(53,310)	15,253	(15,253)	(53,310)
13. 2033 .....	(49,230)	13,225	(13,225)	(49,230)
14. 2034 .....	(47,355)	11,819	(11,819)	(47,355)
15. 2035 .....	(47,009)	10,402	(10,402)	(47,009)
16. 2036 .....	(40,456)	7,495	(7,495)	(40,456)
17. 2037 .....	(32,313)	7,026	(7,026)	(32,313)
18. 2038 .....	(24,203)	7,335	(7,335)	(24,203)
19. 2039 .....	(10,114)	6,121	(6,121)	(10,114)
20. 2040 .....		6,248	(6,248)	
21. 2041 .....		6,461	(6,461)	
22. 2042 .....		1,443	(1,443)	
23. 2043 .....		(8,363)	8,363	
24. 2044 .....		(17,528)	17,528	
25. 2045 .....		(25,737)	25,737	
26. 2046 .....		(37,246)	37,246	
27. 2047 .....		(37,466)	37,466	
28. 2048 .....		(29,802)	29,802	
29. 2049 .....		(21,287)	21,287	
30. 2050 .....		(13,624)	13,624	
31. 2051 and Later		(4,258)	4,258	
32. Total (Lines 1 to 31)	880,287	1,966,229	(1,966,229)	880,287

## ASSET VALUATION RESERVE

### BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS

#### DEFAULT COMPONENT

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
<b>LONG-TERM BONDS</b>												
1.		Exempt Obligations	320,210,428	XXX	XXX	320,210,428	0.0000		0.0000		0.0000	
2.1	1	NAIC Designation Category 1.A	128,814,226	XXX	XXX	128,814,226	0.0005	64,407	0.0016	206,103	0.0033	425,087
2.2	1	NAIC Designation Category 1.B	29,603,744	XXX	XXX	29,603,744	0.0005	14,802	0.0016	47,366	0.0033	97,692
2.3	1	NAIC Designation Category 1.C	27,462,156	XXX	XXX	27,462,156	0.0005	13,731	0.0016	43,939	0.0033	90,625
2.4	1	NAIC Designation Category 1.D	54,775,782	XXX	XXX	54,775,782	0.0005	27,388	0.0016	87,641	0.0033	180,760
2.5	1	NAIC Designation Category 1.E	63,028,472	XXX	XXX	63,028,472	0.0005	31,514	0.0016	100,846	0.0033	207,994
2.6	1	NAIC Designation Category 1.F	119,842,693	XXX	XXX	119,842,693	0.0005	59,921	0.0016	191,748	0.0033	395,481
2.7	1	NAIC Designation Category 1.G	105,546,838	XXX	XXX	105,546,838	0.0005	52,773	0.0016	168,875	0.0033	348,305
2.8		Subtotal NAIC 1 (2.1+2.2+2.3+2.4+2.5+2.6+2.7)	529,073,911	XXX	XXX	529,073,911	XXX	264,537	XXX	846,518	XXX	1,745,944
3.1	2	NAIC Designation Category 2.A	81,108,878	XXX	XXX	81,108,878	0.0021	170,329	0.0064	519,097	0.0106	859,754
3.2	2	NAIC Designation Category 2.B	75,777,081	XXX	XXX	75,777,081	0.0021	159,132	0.0064	484,973	0.0106	803,237
3.3	2	NAIC Designation Category 2.C	29,038,422	XXX	XXX	29,038,422	0.0021	60,981	0.0064	185,846	0.0106	307,807
3.4		Subtotal NAIC 2 (3.1+3.2+3.3)	185,924,381	XXX	XXX	185,924,381	XXX	390,441	XXX	1,189,916	XXX	1,970,798
4.1	3	NAIC Designation Category 3.A	2,330,834	XXX	XXX	2,330,834	0.0099	23,075	0.0263	61,301	0.0376	87,639
4.2	3	NAIC Designation Category 3.B	3,320,100	XXX	XXX	3,320,100	0.0099	32,869	0.0263	87,319	0.0376	124,836
4.3	3	NAIC Designation Category 3.C	1,498,416	XXX	XXX	1,498,416	0.0099	14,834	0.0263	39,408	0.0376	56,340
4.4		Subtotal NAIC 3 (4.1+4.2+4.3)	7,149,350	XXX	XXX	7,149,350	XXX	70,779	XXX	188,028	XXX	268,816
5.1	4	NAIC Designation Category 4.A		XXX	XXX		0.0245		0.0572		0.0817	
5.2	4	NAIC Designation Category 4.B	459,406	XXX	XXX	459,406	0.0245	11,255	0.0572	26,278	0.0817	37,533
5.3	4	NAIC Designation Category 4.C		XXX	XXX		0.0245		0.0572		0.0817	
5.4		Subtotal NAIC 4 (5.1+5.2+5.3)	459,406	XXX	XXX	459,406	XXX	11,255	XXX	26,278	XXX	37,533
6.1	5	NAIC Designation Category 5.A		XXX	XXX		0.0630		0.1128		0.1880	
6.2	5	NAIC Designation Category 5.B		XXX	XXX		0.0630		0.1128		0.1880	
6.3	5	NAIC Designation Category 5.C		XXX	XXX		0.0630		0.1128		0.1880	
6.4		Subtotal NAIC 5 (6.1+6.2+6.3)		XXX	XXX		XXX		XXX		XXX	
7.	6	NAIC 6		XXX	XXX		0.0000		0.2370		0.2370	
8.		Total Unrated Multi-class Securities Acquired by Conversion		XXX	XXX		XXX		XXX		XXX	
9.		Total Long-Term Bonds (1+2.8+3.4+4.4+5.4+6.4+7+8)	1,042,817,476	XXX	XXX	1,042,817,476	XXX	737,012	XXX	2,250,740	XXX	4,023,091
<b>PREFERRED STOCKS</b>												
10.	1	Highest Quality		XXX	XXX		0.0005		0.0016		0.0033	
11.	2	High Quality		XXX	XXX		0.0021		0.0064		0.0106	
12.	3	Medium Quality		XXX	XXX		0.0099		0.0263		0.0376	
13.	4	Low Quality		XXX	XXX		0.0245		0.0572		0.0817	
14.	5	Lower Quality		XXX	XXX		0.0630		0.1128		0.1880	
15.	6	In or Near Default		XXX	XXX		0.0000		0.2370		0.2370	
16.		Affiliated Life with AVR		XXX	XXX		0.0000		0.0000		0.0000	
17.		Total Preferred Stocks (Sum of Lines 10 through 16)		XXX	XXX		XXX		XXX		XXX	

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

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
<b>SHORT-TERM BONDS</b>												
18.		Exempt Obligations	32,874,371	XXX	XXX	32,874,371	0.0000		0.0000		0.0000	
19.1	1	NAIC Designation Category 1.A	12,955,855	XXX	XXX	12,955,855	0.0005	6,478	0.0016	20,729	0.0033	42,754
19.2	1	NAIC Designation Category 1.B		XXX	XXX		0.0005		0.0016		0.0033	
19.3	1	NAIC Designation Category 1.C		XXX	XXX		0.0005		0.0016		0.0033	
19.4	1	NAIC Designation Category 1.D		XXX	XXX		0.0005		0.0016		0.0033	
19.5	1	NAIC Designation Category 1.E		XXX	XXX		0.0005		0.0016		0.0033	
19.6	1	NAIC Designation Category 1.F		XXX	XXX		0.0005		0.0016		0.0033	
19.7	1	NAIC Designation Category 1.G		XXX	XXX		0.0005		0.0016		0.0033	
19.8		Subtotal NAIC 1 (19.1+19.2+19.3+19.4+19.5+19.6+19.7)	12,955,855	XXX	XXX	12,955,855	XXX	6,478	XXX	20,729	XXX	42,754
20.1	2	NAIC Designation Category 2.A		XXX	XXX		0.0021		0.0064		0.0106	
20.2	2	NAIC Designation Category 2.B		XXX	XXX		0.0021		0.0064		0.0106	
20.3	2	NAIC Designation Category 2.C		XXX	XXX		0.0021		0.0064		0.0106	
20.4		Subtotal NAIC 2 (20.1+20.2+20.3)		XXX	XXX		XXX		XXX		XXX	
21.1	3	NAIC Designation Category 3.A		XXX	XXX		0.0099		0.0263		0.0376	
21.2	3	NAIC Designation Category 3.B		XXX	XXX		0.0099		0.0263		0.0376	
21.3	3	NAIC Designation Category 3.C		XXX	XXX		0.0099		0.0263		0.0376	
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		0.0245		0.0572		0.0817	
22.2	4	NAIC Designation Category 4.B		XXX	XXX		0.0245		0.0572		0.0817	
22.3	4	NAIC Designation Category 4.C		XXX	XXX		0.0245		0.0572		0.0817	
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		0.0630		0.1128		0.1880	
23.2	5	NAIC Designation Category 5.B		XXX	XXX		0.0630		0.1128		0.1880	
23.3	5	NAIC Designation Category 5.C		XXX	XXX		0.0630		0.1128		0.1880	
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)	45,830,226	XXX	XXX	45,830,226	XXX	6,478	XXX	20,729	XXX	42,754
<b>DERIVATIVE INSTRUMENTS</b>												
26.		Exchange Traded		XXX	XXX		0.0005		0.0016		0.0033	
27.	1	Highest Quality	51,974	XXX	XXX	51,974	0.0005	26	0.0016	83	0.0033	172
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	51,974	XXX	XXX	51,974	XXX	26	XXX	83	XXX	172
34.		Total (Lines 9 + 17 + 25 + 33)	1,088,699,676	XXX	XXX	1,088,699,676	XXX	743,516	XXX	2,271,553	XXX	4,066,017

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

Line Number	NAIC Designation	Description	1 Book/Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols.4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
MORTGAGE LOANS												
In Good Standing:												
35.		Farm Mortgages - CM1 - Highest Quality .....			XXX		0.0011		0.0057		0.0074	
36.		Farm Mortgages - CM2 - High Quality .....			XXX		0.0040		0.0114		0.0149	
37.		Farm Mortgages - CM3 - Medium Quality .....			XXX		0.0069		0.0200		0.0257	
38.		Farm Mortgages - CM4 - Low Medium Quality .....			XXX		0.0120		0.0343		0.0428	
39.		Farm Mortgages - CM5 - Low Quality .....			XXX		0.0183		0.0486		0.0628	
40.		Residential Mortgages - Insured or Guaranteed .....	8,931,593		XXX	8,931,593	0.0003	2,679	0.0007	6,252	0.0011	9,825
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)	8,931,593		XXX	8,931,593	XXX	2,679	XXX	6,252	XXX	9,825
59.		Schedule DA Mortgages			XXX		0.0034		0.0114		0.0149	
60.		Total Mortgage Loans on Real Estate (Lines 58 + 59)	8,931,593		XXX	8,931,593	XXX	2,679	XXX	6,252	XXX	9,825

Asset Valuation Reserve - Equity Component

**N O N E**

Asset Valuation Reserve - Replications (Synthetic) Assets

**N O N E**

**OVERFLOW PAGE FOR WRITE-INS**

Additional Write-ins for Exhibit 5 Line 10.2

	1 Amount
10.204. Change in remittances and items not allocated .....	(203,272)
10.297. Summary of remaining write-ins for Line 10.2 from overflow page	(203,272)

## SCHEDULE A - VERIFICATION BETWEEN YEARS

Real Estate

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

NONE

## SCHEDULE B - VERIFICATION BETWEEN YEARS

Mortgage Loans

1.	Book value/recorded investment excluding accrued interest, December 31 of prior year .....	10,194,089
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) .....	3,067
3.	Capitalized deferred interest and other:	
3.1	Totals, Part 1, Column 12 .....	
3.2	Totals, Part 3, Column 11 .....	
4.	Accrual of discount .....	1,571
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 .....	1,240,830
8.	Deduct amortization of premium and mortgage interest points and commitment fees .....	26,318
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) .....	8,931,579
12.	Total valuation allowance .....	
13.	Subtotal (Line 11 plus 12) .....	8,931,579
14.	Deduct total nonadmitted amounts .....	
15.	Statement value of mortgages owned at end of current period (Line 13 minus Line 14) .....	8,931,579

## SCHEDULE BA - VERIFICATION BETWEEN YEARS

Other Long-Term Invested Assets

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 8) .....	746,880	
2.2	Additional investment made after acquisition (Part 2, Column 9) .....		746,880
3.	Capitalized deferred interest and other:		
3.1	Totals, Part 1, Column 16 .....		
3.2	Totals, Part 3, Column 12 .....		
4.	Accrual of discount .....		
5.	Unrealized valuation increase (decrease):		
5.1	Totals, Part 1, Column 13 .....	(1,930)	
5.2	Totals, Part 3, Column 9 .....		(1,930)
6.	Total gain (loss) on disposals, Part 3, Column 19 .....		1,867
7.	Deduct amounts received on disposals, Part 3, Column 16 .....		104,992
8.	Deduct amortization of premium and depreciation .....		411
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) .....		641,414
12.	Deduct total nonadmitted amounts .....		
13.	Statement value at end of current period (Line 11 minus Line 12) .....		641,414

## SCHEDULE D - VERIFICATION BETWEEN YEARS

Bonds and Stocks

1.	Book/adjusted carrying value, December 31 of prior year .....		4,545,105,093
2.	Cost of bonds and stocks acquired, Part 3, Column 7 .....		1,366,104,881
3.	Accrual of discount .....		799,899
4.	Unrealized valuation increase (decrease):		
4.1	Part 1, Column 12 .....	(50,761,103)	
4.2	Part 2, Section 1, Column 15 .....		
4.3	Part 2, Section 2, Column 13 .....	165,079,874	
4.4	Part 4, Column 11 .....	(61,113,564)	53,205,206
5.	Total gain (loss) on disposals, Part 4, Column 19 .....		32,312,470
6.	Deduction consideration for bonds and stocks disposed of, Part 4, Column 7 .....		1,404,099,184
7.	Deduct amortization of premium .....		3,237,083
8.	Total foreign exchange change in book/adjusted carrying value:		
8.1	Part 1, Column 15 .....		
8.2	Part 2, Section 1, Column 19 .....		
8.3	Part 2, Section 2, Column 16 .....		
8.4	Part 4, Column 15 .....		
9.	Deduct current year's other than temporary impairment recognized:		
9.1	Part 1, Column 14 .....		
9.2	Part 2, Section 1, Column 17 .....		
9.3	Part 2, Section 2, Column 14 .....		
9.4	Part 4, Column 13 .....		
10.	Total investment income recognized as a result of prepayment penalties and/or acceleration fees, Note 5Q, Line 2 .....		691,251
11.	Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9+10) .....		4,590,882,533
12.	Deduct total nonadmitted amounts .....		
13.	Statement value at end of current period (Line 11 minus Line 12) .....		4,590,882,533



ANNUAL STATEMENT FOR THE YEAR 2021 OF THE SEPARATE ACCOUNTS OF THE MML Bay State Life Insurance Company

**SCHEDULE D - SUMMARY BY COUNTRY**

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

Description		1 Book/Adjusted Carrying Value	2 Fair Value	3 Actual Cost	4 Par Value of Bonds
<b>BONDS</b>					
Governments (Including all obligations guaranteed by governments)	1. United States .....	577,809,836	583,569,949	577,209,957	568,228,892
	2. Canada .....	9,583,046	9,835,058	9,814,708	9,305,000
	3. Other Countries	6,654,879	6,797,441	6,660,205	6,372,100
	4. Totals	594,047,761	600,202,448	593,684,870	583,905,992
U.S. States, Territories and Possessions (Direct and guaranteed)	5. Totals	180,451	180,451	126,283	105,000
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	1,390,613,524	1,392,271,377	1,383,738,341	1,342,374,126
Industrial and Miscellaneous, SVO Identified Funds, Unaffiliated Bank Loans and Hybrid Securities (unaffiliated)	8. United States .....	1,115,808,974	1,135,232,237	1,109,599,893	1,080,420,464
	9. Canada .....	19,861,585	20,498,022	19,836,619	19,729,398
	10. Other Countries	92,441,647	93,153,117	92,467,073	91,626,030
	11. Totals	1,228,112,206	1,248,883,376	1,221,903,585	1,191,775,892
Parent, Subsidiaries and Affiliates	12. Totals				
	13. Total Bonds	3,212,953,942	3,241,537,652	3,199,453,079	3,118,161,010
<b>PREFERRED STOCKS</b>					
Industrial and Miscellaneous (unaffiliated)	14. United States .....				
	15. Canada .....				
	16. Other Countries				
	17. Totals				
Parent, Subsidiaries and Affiliates	18. Totals				
	19. Total Preferred Stocks				
<b>COMMON STOCKS</b>					
Industrial and Miscellaneous (unaffiliated)	20. United States .....	1,377,928,591	1,377,928,591	1,061,526,485	
	21. Canada .....				
	22. Other Countries				
	23. Totals	1,377,928,591	1,377,928,591	1,061,526,485	
Parent, Subsidiaries and Affiliates	24. Totals				
	25. Total Common Stocks	1,377,928,591	1,377,928,591	1,061,526,485	
	26. Total Stocks	1,377,928,591	1,377,928,591	1,061,526,485	
	27. Total Bonds and Stocks	4,590,882,533	4,619,466,243	4,260,979,564	

**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 .....	85,980,557	85,980,557			
2. Cost of short-term investments acquired .....	367,519,797	367,519,797			
3. Accrual of discount .....	10,686	10,686			
4. Unrealized valuation increase (decrease) .....	(6,543)	(6,543)			
5. Total gain (loss) on disposals .....	151,261	151,261			
6. Deduct consideration received on disposals .....	333,935,761	333,935,761			
7. Deduct amortization of premium .....	5,783	5,783			
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) .....	119,714,214	119,714,214			
11. Deduct total nonadmitted amounts .....					
12. Statement value at end of current period (Line 10 minus Line 11)	119,714,214	119,714,214			

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

**SCHEDULE DB - PART A - VERIFICATION BETWEEN YEARS**

Options, Caps, Floors, Collars, Swaps and Forwards

1. Book/adjusted carrying value, December 31, prior year (Line 10, prior year) .....	105,621
2. Cost paid/(consideration received) on additions:	
2.1 Current year paid/(consideration received) at time of acquisition, still open, Section 1, Column 12 .....	
2.2 Current year paid/(consideration received) at time of acquisition, terminated, Section 2, Column 14 .....	
3. Unrealized valuation increase/(decrease):	
3.1 Section 1, Column 17 .....	1,479,746
3.2 Section 2, Column 19 .....	(105,621)
	1,374,125
4. SSAP No. 108 Adjustments .....	
5. Total gain (loss) on termination recognized, Section 2, Column 22 .....	(814,586)
6. Considerations received/(paid) on terminations, Section 2, Column 15 .....	(814,586)
7. Amortization:	
7.1 Section 1, Column 19 .....	
7.2 Section 2, Column 21 .....	
8. Adjustment to the book/adjusted carrying value of hedged item:	
8.1 Section 1, Column 20 .....	
8.2 Section 2, Column 23 .....	
9. Total foreign exchange change in book/adjusted carrying value:	
9.1 Section 1, Column 18 .....	
9.2 Section 2, Column 20 .....	
10. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6+7+8+9) .....	1,479,746
11. Deduct nonadmitted assets .....	
12. Statement value at end of current period (Line 10 minus Line 11) .....	1,479,746

**SCHEDULE DB - PART B - VERIFICATION**

Futures Contracts

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

**NONE**

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

**N O N E**

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

**N O N E**

## SCHEDULE DB - VERIFICATION

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

		Book/Adjusted Carrying Value Check
1.	Part A, Section 1, Column 14.....	1,479,746
2.	Part B, Section 1, Column 15 plus Part B, Section 1 Footnote - Total Ending Cash Balance .....	
3.	Total (Line 1 plus Line 2) .....	1,479,746
4.	Part D, Section 1, Column 6 .....	1,507,111
5.	Part D, Section 1, Column 7 .....	(27,365)
6.	Total (Line 3 minus Line 4 minus Line 5) .....	
		Fair Value Check
7.	Part A, Section 1, Column 16 .....	1,479,746
8.	Part B, Section 1, Column 13 .....	
9.	Total (Line 7 plus Line 8) .....	1,479,746
10.	Part D, Section 1, Column 9 .....	1,507,111
11.	Part D, Section 1, Column 10 .....	(27,365)
12.	Total (Line 9 minus Line 10 minus Line 11) .....	
		Potential Exposure Check
13.	Part A, Section 1, Column 21 .....	5,845,461
14.	Part B, Section 1, Column 20 .....	
15.	Part D, Section 1, Column 12 .....	5,845,461
16.	Total (Line 13 plus Line 14 minus Line 15) .....	

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

(Cash Equivalents)

	1 Total	2 Bonds	3 Money Market Mutual funds	4 Other (a)
1. Book/adjusted carrying value, December 31 of prior year .....	201,274,415	41,089,995	160,184,420	
2. Cost of cash equivalents acquired .....	2,246,725,869	809,220,270	1,437,505,599	
3. Accrual of discount .....				
4. Unrealized valuation increase (decrease) .....	7,846	7,846		
5. Total gain (loss) on disposals .....	33,101	33,101		
6. Deduct consideration received on disposals .....	2,222,265,800	766,512,507	1,455,753,293	
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) .....	225,775,431	83,838,705	141,936,726	
11. Deduct total nonadmitted amounts .....				
12. Statement value at end of current period (Line 10 minus Line 11)	225,775,431	83,838,705	141,936,726	

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