

ANNUAL STATEMENT FOR THE YEAR 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual 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).....		18,427,735,157	18,427,735,157	19,056,174,378
2. Stocks (Schedule D):				
2.1 Preferred stocks				
2.2 Common stocks		48,548,641,283	48,548,641,283	41,683,878,471
3. Mortgage loans on real estate (Schedule B).....		1,684,716	1,684,716	1,812,817
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 (\$166,497,522 Schedule E - Part 1), and cash equivalents (\$771,707,785 , Schedule E - Part 2)		938,205,307	938,205,307	1,884,213,930
6. Short-term investments (Schedule DA)		866,030,199	866,030,199	449,201,514
7. Derivatives (Schedule DB)		98,385,934	98,385,934	207,231,972
8. Other invested assets (Schedule BA)		965,207,436	965,207,436	548,736,432
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)		69,845,890,032	69,845,890,032	63,831,249,514
12. Investment income due and accrued		123,677,010	123,677,010	134,784,791
13. Receivables for securities		261,132,245	261,132,245	512,065,542
14. Net adjustment in assets and liabilities due to foreign exchange rates		(118)	(118)	708
15. Aggregate write-ins for other than invested assets		17	17	30
16. Total (Lines 11 to 15)		70,230,699,186	70,230,699,186	64,478,100,585
DETAILS OF WRITE-INS				
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. Foreign income tax recoverable		17	17	30
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)		17	17	30

ANNUAL STATEMENT FOR THE YEAR 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual 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)		58,625,943,378	58,625,943,378	55,307,383,052
2. Liability for deposit-type contracts (Exhibit 4, Line 9, Col. 1)		10,869,720,443	10,869,720,443	8,186,897,605
3. Interest Maintenance Reserve				
4. Charges for investment management, administration and contract guarantees due or accrued		8,674,223	8,674,223	7,547,069
5. Investment expenses due or accrued (Exhibit 1, Line 24)		1,181,383	1,181,383	242,182
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 \$123,457,757 accrued expense allowances recognized in reserves).....		125,825,730	125,825,730	139,101,750
11. Remittances and items not allocated		181,021,623	181,021,623	(2,112,509)
12. Derivatives		2,567,041	2,567,041	11,716,512
13. Payable for securities		416,012,210	416,012,210	827,463,118
14. Payable for securities lending				
15. Net adjustment in assets and liabilities due to foreign exchange rates				
16. Aggregate write-ins for liabilities		(246,844)	(246,844)	(138,194)
17. Total liabilities (including \$134,499,953 due or accrued net transfers to or (from) the general account)		70,230,699,186	70,230,699,186	64,478,100,585
18. Contributed surplus				(3,153)
19. Aggregate write-ins for special surplus funds				
20. Unassigned funds				3,153
21. Surplus (Lines 18 through 20)				
22. Totals		70,230,699,186	70,230,699,186	64,478,100,585
DETAILS OF WRITE-INS				
1601. Annuitant mortality fluctuation fund		713,265	713,265	534,480
1602. Claims in course of settlement		(145,001)	(145,001)	(90,042)
1603. Derivatives accrued interest on swaps		(815,108)	(815,108)	(582,632)
1698. Summary of remaining write-ins for Line 16 from overflow page				
1699. Totals (Lines 1601 thru 1603 plus 1698)(Line 16 above)		(246,844)	(246,844)	(138,194)
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 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual 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	6,293,024,684	6,837,816,794
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)	6,293,024,684	6,837,816,794
2. Transfers on account of deposit-type contracts (including \$ 4,006,248,149 deposits less \$ 3,038,953,384 withdrawals)	967,294,765	1,488,158,032
3. Net investment income and capital gains and losses	11,460,648,470	(2,627,299,301)
4. Aggregate write-ins for other income	433	798
5. Totals (Lines 1.4 to 4)	18,720,968,352	5,698,676,323
DEDUCT:		
6. Transfers from the Separate Account on account of contract benefits:		
6.1 Death benefits	14,279,019	10,970,595
6.2 Matured endowments		
6.3 Annuity benefits	164,243,814	155,756,303
6.4 Payments on supplementary contracts with life contingencies		
6.5 Accident and health benefits		
6.6 Surrender benefits and withdrawals for life contracts	11,768,537,730	9,250,442,072
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits		
7. Transfers on account of policy loans	17,939,394	18,871,698
8. Net transfer of reserves from or (to) Separate Accounts	352,214,721	449,263,696
9. Other transfers from the Separate Accounts:		
9.1 Federal and foreign income taxes incurred		
9.2 Change in expense allowances recognized in reserves	(4,002,887)	(39,099,851)
9.3 Aggregate write-ins for other transfers from Separate Accounts	4,108,310	895,095
10. Subtotals (Lines 6.1 to 9.3)	12,317,320,101	9,847,099,608
11. Fees associated with charges for investment management, administration and contract guarantees	402,141,261	393,312,833
12. Increase in aggregate reserve for life and accident and health contracts	3,312,920,517	(5,487,485,667)
13. Increase in liability for deposit-type contracts	2,688,462,647	945,942,782
14. Increase in reserve for future federal income taxes		
15. Aggregate write-ins for reserves and funds	123,826	(193,256)
16. Totals (Lines 10 to 15)	18,720,968,352	5,698,676,300
17. Net gain from operations (including \$ unrealized capital gains) (Line 5 minus Line 16)		23
SURPLUS ACCOUNT		
18. Surplus, December 31, prior year		3,130
19. Net gain from operations (Line 17)		23
20. Surplus contributed or (withdrawn) during year		(3,153)
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)		
DETAILS OF WRITE-INS		
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. Miscellaneous	433	798
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)	433	798
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	4,108,310	895,095
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)	4,108,310	895,095
1501. Change in annuitant mortality fluctuation fund	178,785	(22,625)
1502. Claims in course of settlement	(54,959)	(170,631)
1503.		
1598. Summary of remaining write-ins for Line 15 from overflow page		
1599. Totals (Lines 1501 thru 1503 plus 1598)(Line 15 above)	123,826	(193,256)
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 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual 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	6,293,024,684	62,722,449	3,303,862	381,979,904	5,845,018,469		
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)	6,293,024,684	62,722,449	3,303,862	381,979,904	5,845,018,469		
2. Transfers on account of deposit-type contracts (including \$ 4,006,248,149 deposits less \$ 3,038,953,384 withdrawals)	967,294,765				967,294,765		
3. Net investment income and capital gains and losses	11,460,648,470	250,165,625	66,125,992	2,102,845,571	9,041,511,282		
4. Aggregate write-ins for other income	433	433					
5. Totals (Lines 1.4 to 4)	18,720,968,352	312,888,507	69,429,854	2,484,825,475	15,853,824,516		
DEDUCT:							
6. Transfers from the Separate Account on account of contract benefits:							
6.1 Death benefits	14,279,019	4,403,268	9,875,751			XXX	
6.2 Matured endowments				164,230,646	13,168	XXX	
6.3 Annuity benefits	164,243,814	XXX	XXX			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	11,768,537,730	48,069,262	26,014,796	1,223,849,666	10,470,604,006	XXX	
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits							
7. Transfers on account of policy loans	17,939,394	17,569,740	104,667	(42,551)	307,538	XXX	
8. Net transfer of reserves from or (to) Separate Accounts	352,214,721	(18,263,111)	(36,627)	6,625,508	363,888,952		
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	(4,002,887)	194,551		(4,197,438)		XXX	
9.3 Aggregate write-ins for other transfers from Separate Accounts	4,108,310		63,617		4,044,693		
10. Subtotals (Lines 6.1 to 9.3)	12,317,320,101	51,973,710	36,022,205	1,390,465,830	10,838,858,357		
11. Fees associated with charges for investment management, administration and contract guarantees	402,141,261	46,721,757	19,601,836	188,963,212	146,854,456		
12. Increase in aggregate reserve for life and accident and health contracts	3,312,920,517	214,247,999	13,805,813	905,161,154	2,179,705,550		
13. Increase in liability for deposit-type contracts	2,688,462,647			56,494	2,688,406,153	XXX	
14. Increase in reserve for future federal income taxes							
15. Aggregate write-ins for reserves and funds	123,826	(54,959)		178,785			
16. Totals (Lines 10 to 15)	18,720,968,352	312,888,507	69,429,854	2,484,825,475	15,853,824,516		
17. Net gain from operations (including \$ unrealized capital gains) (Line 5 minus Line 16)							
18. Policies/certificates in force end of year	888,685	28,060	27,690	121,531	711,404		
DETAILS OF WRITE-INS							
01.301. Miscellaneous	433	433					
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. Miscellaneous	433	433					
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)	433	433					
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	4,108,310		63,617		4,044,693		
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)	4,108,310		63,617		4,044,693		
1501. Change in annuitant mortality fluctuation fund	178,785			178,785			
1502. Claims in course of settlement	(54,959)	(54,959)					
1503.							
1598. Summary of remaining write-ins for Line 15 from overflow page							
1599. Totals (Lines 1501 thru 1503 plus 1598) (Line 15 above)	123,826	(54,959)		178,785			

ANNUAL STATEMENT FOR THE YEAR 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual 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)	62,722,449	XXX						39,663	62,682,786	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)	62,722,449	XXX						39,663	62,682,786	XXX	
2. Transfers on account of deposit-type contracts (including \$ deposits less \$ withdrawals)		XXX								XXX	
3. Net investment income and capital gains and losses	250,165,625	XXX						432,527	249,733,098	XXX	
4. Aggregate write-ins for other income	433	XXX							433	XXX	
5. Totals (Lines 1.4 to 4)	312,888,507	XXX						472,190	312,416,317	XXX	
DEDUCT:											
6. Transfers from the Separate Account on account of contract benefits:											
6.1 Death benefits	4,403,268	XXX						104,693	4,298,575	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	48,069,262	XXX						97,578	47,971,684	XXX	
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits		XXX								XXX	
7. Transfers on account of policy loans	17,569,740	XXX						(14,447)	17,584,187	XXX	
8. Net transfer of reserves from or (to) Separate Accounts	(18,263,111)	XXX						(8)	(18,263,103)	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	194,551	XXX							194,551	XXX	
9.3 Aggregate write-ins for other transfers from Separate Accounts		XXX								XXX	
10. Subtotals (Lines 6.1 to 9.3)	51,973,710	XXX						187,817	51,785,893	XXX	
11. Fees associated with charges for investment management, administration and contract guarantees	46,721,757	XXX						107,793	46,613,964	XXX	
12. Increase in aggregate reserve for life and accident and health contracts	214,247,999	XXX						176,580	214,071,419	XXX	
13. Increase in liability for deposit-type contracts		XXX								XXX	
14. Increase in reserve for future federal income taxes		XXX								XXX	
15. Aggregate write-ins for reserves and funds	(54,959)	XXX							(54,959)	XXX	
16. Totals (Lines 10 to 15)	312,888,507	XXX						472,190	312,416,317	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	28,060	XXX						55	28,005	XXX	
DETAILS OF WRITE-INS											
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. Miscellaneous	433	XXX							433	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)	433	XXX							433	XXX	
06.701.		XXX								XXX	
06.702.		XXX								XXX	
06.703.		XXX								XXX	
06.798. Summary of remaining write-ins for Line 6.7 from overflow page		XXX								XXX	
06.799. Totals (Lines 06.701 thru 06.703 plus 06.798) (Line 6.7 above)		XXX								XXX	
09.301.		XXX								XXX	
09.302.		XXX								XXX	
09.303.		XXX								XXX	
09.398. Summary of remaining write-ins for Line 9.3 from overflow page		XXX								XXX	
09.399. Totals (Lines 09.301 thru 09.303 plus 09.398) (Line 9.3 above)		XXX								XXX	
1501. Claims in course in settlement	(54,959)	XXX							(54,959)	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)	(54,959)	XXX							(54,959)	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 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual 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)	3,303,862					3,303,862	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	
1.4 Totals (Lines 1.1 to 1.3)	3,303,862					3,303,862	XXX	
2. Transfers on account of deposit-type contracts (including \$ deposits less \$ withdrawals)							XXX	
3. Net investment income and capital gains and losses	66,125,992					66,125,992	XXX	
4. Aggregate write-ins for other income							XXX	
5. Totals (Lines 1.4 to 4)	69,429,854					69,429,854	XXX	
DEDUCT:								
6. Transfers from the Separate Account on account of contract benefits:								
6.1 Death benefits	9,875,751					9,875,751	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	26,014,796					26,014,796	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	104,667					104,667	XXX	
8. Net transfer of reserves from or (to) Separate Accounts	(36,627)					(36,627)	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	63,617					63,617	XXX	
10. Subtotals (Lines 6.1 to 9.3)	36,022,205					36,022,205	XXX	
11. Fees associated with charges for investment management, administration and contract guarantees	19,601,836					19,601,836	XXX	
12. Increase in aggregate reserve for life and accident and health contracts	13,805,813					13,805,813	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)	69,429,854					69,429,854	XXX	
17. Net gain from operations (including \$ unrealized capital gains) (Line 5 minus Line 16)							XXX	
18. Policies/certificates in force end of year	27,690					27,690	XXX	
DETAILS OF WRITE-INS								
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. Miscellaneous	63,617					63,617	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)	63,617					63,617	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 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company
ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - INDIVIDUAL ANNUITIES (a)

	1 Total	Deferred			6 Life Contingent Payout (Immediate and Annuityizations)	7 Other Annuities
		2 Fixed Annuities	3 Indexed Annuities	4 Variable Annuities With Guarantees			5 Variable Annuities Without Guarantees
1. Transfers to Separate Accounts:						
1.1 Net annuity considerations for annuity contracts	381,979,904			381,155,041	824,863	
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)	381,979,904			381,155,041	824,863	
2. Transfers on account of deposit-type contracts (including \$ deposits less \$ withdrawals)						
3. Net investment income and capital gains and losses	2,102,845,571			2,069,621,099	21,369,229	11,855,243
4. Aggregate write-ins for other income						
5. Totals (Lines 1.4 to 4)	2,484,825,475			2,450,776,140	22,194,092	11,855,243
DEDUCT:						
6. Transfers from the Separate Account on account of contract benefits:						
6.1 Death benefits						
6.2 Matured endowments						
6.3 Annuity benefits	164,230,646			156,181,199	3,063,595	4,985,852
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	1,223,849,666			1,213,956,709	9,879,136	13,821
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits						
7. Transfers on account of policy loans	(42,551)			(42,551)		
8. Net transfer of reserves from or (to) Separate Accounts	6,625,508			6,147,006	(2,305)	480,807
9. Other transfers from the Separate Accounts:						
9.1 Federal and foreign income taxes incurred						
9.2 Change in expense allowances recognized in reserves	(4,197,438)			(4,190,558)	(6,880)	
9.3 Aggregate write-ins for other transfers from Separate Accounts						
10. Subtotals (Lines 6.1 to 9.3)	1,390,465,830			1,372,051,805	12,933,546	5,480,480
11. Fees associated with charges for investment management, administration and contract guarantees	188,963,212			188,558,997	747,652	(343,437)
12. Increase in aggregate reserve for life and accident and health contracts	905,161,154			889,944,637	8,498,317	6,718,201
13. Increase in liability for deposit-type contracts	56,494			56,494		
14. Increase in reserve for future federal income taxes						
15. Aggregate write-ins for reserves and funds	178,785			164,208	14,577	
16. Totals (Lines 10 to 15)	2,484,825,475			2,450,776,140	22,194,092	11,855,243
17. Net gain from operations (including \$ unrealized capital gains) (Line 5 minus Line 16)						
18. Policies/certificates in force end of year	121,531			119,038	1,875	618
DETAILS OF WRITE-INS						
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	178,785			164,208	14,577	
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)	178,785			164,208	14,577	

(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 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company
ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - GROUP ANNUITIES (a)
(N/A Fraternal)

	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	5,845,018,469			2,767,511,896	3,077,506,573	
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)	5,845,018,469			2,767,511,896	3,077,506,573	
2. Transfers on account of deposit-type contracts (including \$ 4,006,248,149 deposits less \$ 3,038,953,384 withdrawals)	967,294,765				967,294,765	
3. Net investment income and capital gains and losses	9,041,511,282			1,480,681,732	7,560,829,550	
4. Aggregate write-ins for other income						
5. Totals (Lines 1.4 to 4)	15,853,824,516			4,248,193,628	11,605,630,888	
DEDUCT:						
6. Transfers from the Separate Account on account of contract benefits:						
6.1 Death benefits						
6.2 Matured endowments						
6.3 Annuity benefits	13,168				13,168	
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	10,470,604,006			162,757,423	10,307,846,583	
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits						
7. Transfers on account of policy loans	307,538				307,538	
8. Net transfer of reserves from or (to) Separate Accounts	363,888,952			4,888,670,160	(4,524,781,208)	
9. Other transfers from the Separate Accounts:						
9.1 Federal and foreign income taxes incurred						
9.2 Change in expense allowances recognized in reserves						
9.3 Aggregate write-ins for other transfers from Separate Accounts	4,044,693				4,044,693	
10. Subtotals (Lines 6.1 to 9.3)	10,838,858,357			5,051,427,583	5,787,430,774	
11. Fees associated with charges for investment management, administration and contract guarantees	146,854,456			85,028,745	61,825,711	
12. Increase in aggregate reserve for life and accident and health contracts	2,179,705,550			(888,262,700)	3,067,968,250	
13. Increase in liability for deposit-type contracts	2,688,406,153				2,688,406,153	
14. Increase in reserve for future federal income taxes						
15. Aggregate write-ins for reserves and funds						
16. Totals (Lines 10 to 15)	15,853,824,516			4,248,193,628	11,605,630,888	
17. Net gain from operations (including \$ unrealized capital gains) (Line 5 minus Line 16)						
18. Policies/certificates in force end of year	711,404			137,703	573,701	
DETAILS OF WRITE-INS						
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	4,044,693				4,044,693	
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)	4,044,693				4,044,693	
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) 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 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company
ANALYSIS OF OPERATIONS BY LINES OF BUSINESS - ACCIDENT AND HEALTH (a)

	1 Total	Comprehensive		4 Medicare Supplement	5 Vision Only	6 Dental Only	7 Federal Employees Health Benefits Plan	8 Title XVIII Medicare	9 Title XIX Medicaid	10 Credit A&H	11 Disability Income	12 Long-Term Care	13 Other Health
		2 Individual	3 Group										
1. Transfers to Separate Accounts:													
1.1 Net Premiums for accident and health contracts	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
1.2 Considerations for supplementary contracts with life contingencies													
1.3 Aggregate write-ins for other transfers to Separate Accounts													
1.4 Totals (Lines 1.1 to 1.3)													
2. Transfers on account of deposit-type contracts (including \$ deposits less \$ withdrawals)													
3. Net investment income and capital gains and losses													
4. Aggregate write-ins for other income													
5. Totals (Lines 1.4 to 4)													
DEDUCT:													
6. Transfers from the Separate Account on account of contract benefits:													
6.1 Death benefits	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.2 Matured endowments	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.3 Annuity benefits	XXX	XXX	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	XXX	XXX
6.5 Accident and health benefits													
6.6 Surrender benefits and withdrawals for life contracts	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6.7 Aggregate write-ins for other transfers from Separate Accounts on account of contract benefits													
7. Transfers on account of policy loans	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
8. Net transfer of reserves from or (to) Separate Accounts													
9. Other transfers from the Separate Accounts:													
9.1 Federal and foreign income taxes incurred	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
9.2 Change in expense allowances recognized in reserves	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
9.3 Aggregate write-ins for other transfers from Separate Accounts													
10. Subtotals (Lines 6.1 to 9.3)													
11. Fees associated with charges for investment management, administration and contract guarantees													
12. Increase in aggregate reserve for life and accident and health contracts	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
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													
16. Totals (Lines 10 to 15)													
17. Net gain from operations (including \$ unrealized capital gains) (Line 5 minus Line 16)													
18. Policies/certificates in force end of year													
DETAILS OF WRITE-INS													
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.													
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)													

NONE

(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 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual 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	939,871,526	XXX						2,123,586	937,747,940	XXX	
2. Tabular net premiums and considerations for annuities and supplementary contracts with life contingencies	62,722,449	XXX						39,663	62,682,786	XXX	
3. Increase or (decrease) from investment results after provision for federal income taxes	250,165,625	XXX						432,527	249,733,098	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)	87,079,298	XXX							87,079,298	XXX	
7. Totals (Lines 1 to 6)	1,339,838,898	XXX						2,595,776	1,337,243,122	XXX	
8. Net transfer of reserves from or (to) Separate Accounts	(18,263,111)	XXX						(8)	(18,263,103)	XXX	
9. Tabular cost	36,610,340	XXX						102,142	36,508,198	XXX	
10. Reserves released by death	4,403,268	XXX						104,693	4,298,575	XXX	
11. Reserves released by other terminations (net)	48,069,262	XXX						97,578	47,971,684	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	10,111,417	XXX						5,652	10,105,765	XXX	
14. Aggregate write-ins for other decreases in reserves	17,709,332	XXX						(14,447)	17,723,779	XXX	
15. Total deductions (Lines 8 to 14)	98,640,508	XXX						295,610	98,344,898	XXX	
16. Reserve December 31 of current year	1,241,198,390	XXX						2,300,166	1,238,898,224	XXX	
Cash Surrender Value and Policy Loans											
17. CSV ending balance December 31, current year	1,231,042,235	XXX						1,447,026	1,229,595,209	XXX	
18. Amount available for policy loans based upon Line 17 CSV	984,833,788	XXX						1,157,621	983,676,167	XXX	
DETAILS OF WRITE-INS											
1401. Change in policy loans	17,569,740	XXX						(14,447)	17,584,187	XXX	
1402. Change in surrender charge offset	194,551	XXX							194,551	XXX	
1403. Claims in course of settlement	(54,959)	XXX							(54,959)	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)	17,709,332	XXX						(14,447)	17,723,779	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 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual 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	1,705,848,101					1,705,848,101	XXX	
2. Tabular net premiums and considerations	3,303,862					3,303,862	XXX	
3. Increase or (decrease) from investment results after provision for federal income taxes	66,125,992					66,125,992	XXX	
4. Tabular less actual reserve released							XXX	
5. Increase in reserve on account of change in valuation basis							XXX	
6. Other increases (net)	(87,142,504)					(87,142,504)	XXX	
7. Totals (Lines 1 to 6)	1,688,135,451					1,688,135,451	XXX	
8. Net transfer of reserves from or (to) Separate Accounts	(36,627)					(36,627)	XXX	
9. Tabular cost						XXX	XXX	
10. Reserves released by death	9,875,751					9,875,751	XXX	
11. Reserves released by other terminations (net)	26,014,796					26,014,796	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	19,601,836					19,601,836	XXX	
14. Aggregate write-ins for other decreases in reserves	104,667					104,667	XXX	
15. Total deductions (Lines 8 to 14)	55,560,423					55,560,423	XXX	
16. Reserve December 31 of current year	1,632,575,028					1,632,575,028	XXX	
Cash Surrender Value and Policy Loans								
17. CSV ending balance December 31, current year	1,624,617,399					1,624,617,399	XXX	
18. Amount available for policy loans based upon line 17 CSV	1,299,693,919					1,299,693,919	XXX	
DETAILS OF WRITE-INS								
1401. Change in policy loans	104,667					104,667	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)	104,667					104,667	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 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company
ANALYSIS OF INCREASE IN RESERVES DURING THE YEAR - INDIVIDUAL ANNUITIES (a)

	1 Total	Deferred				6 Life Contingent Payout (Immediate and Annuityizations)	7 Other Annuities
		2 Fixed Annuities	3 Indexed Annuities	4 Variable Annuities With Guarantees	5 Variable Annuities Without Guarantees		
1. Reserve December 31 of prior year	10,227,137,335			10,083,115,100	92,601,815	51,420,420	
2. Tabular net premiums and considerations	381,979,904			381,155,041	824,863		
3. Increase or (decrease) from investment results after provision for federal income taxes	2,102,772,968			2,070,175,604	20,742,121	11,855,243	
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)	12,711,890,207			12,534,445,745	114,168,799	63,275,663	
8. Net transfer of reserves from or (to) Separate Accounts	6,625,508			6,143,734	967	480,807	
9. Tabular cost							
10. Reserves released by death	XXX	XXX	XXX	XXX	XXX	XXX	XXX
11. Reserves released by other terminations (net)	1,268,998,919			1,259,792,803	9,192,295	13,821	
12. Transfers on account of annuity and supplementary contract payments involving life contingencies	119,081,393			111,084,240	3,011,301	4,985,852	
13. Charges for investment management, administration and contract guarantees	188,947,105			188,547,583	742,959	(343,437)	
14. Aggregate write-ins for other decreases in reserves	(4,061,204)			(4,068,901)	7,697		
15. Total deductions (Lines 8 to 14)	1,579,591,721			1,561,499,459	12,955,219	5,137,043	
16. Reserve December 31 of current year	11,132,298,486			10,972,946,286	101,213,580	58,138,620	
Cash Surrender Value and Policy Loans							
17. CSV ending balance December 31, current year	11,013,400,779			10,912,276,508	101,124,271		
18. Amount available for policy loans based upon line 17 CSV	147,500,306			147,500,306			
DETAILS OF WRITE-INS							
1401. Change in surrender charge offset	(4,197,438)			(4,190,558)	(6,880)		
1402. Change in policy loans	(42,551)			(42,551)			
1403. Change in annuitant mortality fluctuation fund	178,785			164,208	14,577		
1498. Summary of remaining write-ins for Line 14 from overflow page							
1499. TOTALS (Lines 1401 thru 1403 plus 1498) (Line 14 above)	(4,061,204)			(4,068,901)	7,697		

(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 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company
ANALYSIS OF INCREASE IN RESERVES DURING THE YEAR - GROUP ANNUITIES (a)
(N/A Fraternal)

	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	42,434,526,090			17,021,471,221	25,413,054,869		
2. Tabular net premiums and considerations	5,845,018,469			2,767,511,896	3,077,506,573		
3. Increase or (decrease) from investment results after provision for federal income taxes	7,275,923,241			1,480,681,732	5,795,241,509		
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)	55,555,467,800			21,269,664,849	34,285,802,951		
8. Net transfer of reserves from or (to) Separate Accounts	363,888,952			4,888,670,160	(4,524,781,208)		
9. Tabular cost							
10. Reserves released by death	XXX	XXX	XXX	XXX	XXX	XXX	XXX
11. Reserves released by other terminations (net)	10,470,604,006			162,757,423	10,307,846,583		
12. Transfers on account of annuity and supplementary contract payments involving life contingencies	13,168				13,168		
13. Charges for investment management, administration and contract guarantees	101,090,200			85,028,745	16,061,455		
14. Aggregate write-ins for other decreases in reserves							
15. Total deductions (Lines 8 to 14)	10,935,596,326			5,136,456,328	5,799,139,998		
16. Reserve December 31 of current year	44,619,871,474			16,133,208,521	28,486,662,953		
Cash Surrender Value and Policy Loans							
17. CSV ending balance December 31, current year	44,619,871,474			16,133,208,521	28,486,662,953		
18. Amount available for policy loans based upon line 17 CSV	44,619,871,474			16,133,208,521	28,486,662,953		
DETAILS OF WRITE-INS							
1401.							
1402.							
1403.							
1498. Summary of remaining write-ins for Line 14 from overflow page							
1499. TOTALS (Lines 1401 thru 1403 plus 1498) (Line 14 above)							

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

ANNUAL STATEMENT FOR THE YEAR 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

ANALYSIS OF RESERVES DURING THE YEAR - ACCIDENT AND HEALTH^(a)

	1 Total	Comprehensive		4 Medicare Supplement	5 Vision Only	6 Dental Only	7 Federal Employees Health Benefits Plan	8 Title XVIII Medicare	9 Title XIX Medicaid	10 Credit A&H	11 Disability Income	12 Long-Term Care	13 Other Health
		2 Individual	3 Group										
ACTIVE LIFE RESERVE													
1. Unearned premium reserves													
2. Additional contract reserves (a)													
3. Additional actuarial reserves-Asset/Liability analysis													
4. Reserve for future contingent benefits													
5. Reserve for rate credits													
6. Aggregate write-ins for reserves													
7. Totals (Gross)													
8. Reinsurance ceded													
9. Totals (Net)													
CLAIM RESERVE													
10. Present value of amounts not yet due on claims													
11. Additional actuarial reserves-Asset/Liability analysis													
12. Reserve for future contingent benefits													
13. Aggregate write-ins for reserves													
14. Totals (Gross)													
15. Reinsurance ceded													
16. Totals (Net)													
17. TOTAL (Net)													
18. TABULAR FUND INTEREST													
DETAILS OF WRITE-INS													
0601.													
0602.													
0603.													
0698. Summary of remaining write-ins for Line 6 from overflow page													
0699. TOTALS (Lines 0601 thru 0603 plus 0698) (Line 6 above)													
1301.													
1302.													
1303.													
1398. Summary of remaining write-ins for Line 13 from overflow page													
1399. TOTALS (Lines 1301 thru 1303 plus 1398) (Line 13 above)													

NONE

(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 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

EXHIBIT OF NET INVESTMENT INCOME

	1 Collected During Year	2 Earned During Year
1. U.S. Government bonds	(a) 74,198,561	73,328,097
1.1 Bonds exempt from U.S. tax	(a)	
1.2 Other bonds (unaffiliated)	(a) 645,617,518	635,324,982
1.3 Bonds of affiliates	(a)	
2.1 Preferred stocks (unaffiliated)	(b)	
2.11 Preferred stocks of affiliates	(b)	
2.2 Common stocks (unaffiliated)	2,951,123,881	2,950,952,884
2.21 Common stocks of affiliates		
3. Mortgage loans	(c) 93,823	93,137
4. Real estate	(d) 385,957	385,957
5. Contract loans		
6. Cash, cash equivalents and short-term investments	(e) 10,483,687	10,976,215
7. Derivative instruments	(f) 1,390,973	1,357,823
8. Other invested assets		
9. Aggregate write-ins for investment income	(1,920,816)	(1,920,816)
10. Total gross investment income	3,681,373,584	3,670,498,279
11. Investment expenses		(g) 2,569,004
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)		2,569,004
17. Net investment income (Line 10 minus Line 16)		3,667,929,275
DETAILS OF WRITE-INS		
0901. Miscellaneous	(1,920,816)	(1,920,816)
0902.		
0903.		
0998. Summary of remaining write-ins for Line 9 from overflow page		
0999. Totals (Lines 0901 thru 0903 plus 0998) (Line 9, above)	(1,920,816)	(1,920,816)
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 \$ accrual of discount less \$ amortization of premium and less \$ 73,318,305 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 \$ accrual of discount less \$ 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 \$ 189,789 accrual of discount less \$ 3,071 amortization of premium and less \$ 4,536 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	140,562,193		140,562,193	29,500,531	
1.1 Bonds exempt from U.S. tax					
1.2 Other bonds (unaffiliated)	64,529,039	(72,664)	64,456,375	840,647,032	60,455
1.3 Bonds of affiliates					
2.1 Preferred stocks (unaffiliated)					
2.11 Preferred stocks of affiliates					
2.2 Common stocks (unaffiliated)	399,656,726	(68,478)	399,588,248	6,151,694,193	78,268
2.21 Common stocks of affiliates					
3. Mortgage loans	(749)		(749)	73,855	
4. Real estate					
5. Contract loans					
6. Cash, cash equivalents and short-term investments	47,874,539		47,874,539		
7. Derivative instruments	195,220,612	553,428	195,774,040	(113,109,938)	(6,480,854)
8. Other invested assets	34,597,343		34,597,343	7,396,686	
9. Aggregate write-ins for capital gains (losses)		7,804	7,804		(826)
10. Total capital gains (losses)	882,439,703	420,090	882,859,793	6,916,202,359	(6,342,957)
DETAILS OF WRITE-INS					
0901. Capital gain (loss) on foreign currency		7,804	7,804		(826)
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)		7,804	7,804		(826)

ANNUAL STATEMENT FOR THE YEAR 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

EXHIBIT 1 - INVESTMENT EXPENSES

	1 Amount
1. Rent	
2. Salaries and wages	
3. Contributions for benefit plans for employees (a)	
4. Payments to employees under non-funded benefit plans	
5. Other employee welfare	
6. Legal fees and expenses	
7. Fees of public accountants and consulting actuaries	
8. Traveling expenses	
9. Postage, express, telegraph and telephone	
10. Printing and stationery	
11. Cost or depreciation of furniture and equipment	
12. Rental of equipment	
13. Books and periodicals	
14. Bureau and association fees	
15. Insurance, except on real estate	
16. Miscellaneous losses	
17. Collection and bank service charges	2,569,004
18. Sundry general expenses	
19. Real estate expenses	
20. Investment expenses not included elsewhere	
21. Aggregate write-ins for other investment expenses	
22. Investment expenses incurred	2,569,004
Reconciliation with Exhibit 5	
23. Investment expenses unpaid December 31, prior year	242,182
24. Investment expenses unpaid December 31, current year	1,181,383
25. Investment expenses paid during year (Lines 22 + 23 - 24) (to Exhibit 5, Line 12)	1,629,803
DETAILS OF WRITE-INS	
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)	

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

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

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

NONE

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

1	2	3	4
Description of Valuation Basis	Total	Ordinary	Group
0100001. 58 CSO 4.00% Mod CRVM	2,300,167	2,300,167	
0100002. 80 CSO 5.50% CRVM	27,115,266	27,115,266	
0100003. 80 CSO 5.00% CRVM	332,959	332,959	
0100004. 80 CSO 4.50% CRVM	720,919,081	720,919,081	
0100005. 80 CSO 4.00% CRVM	128,087,452	128,087,452	
0100006. 2001 CSO 4.00% CRVM	17,808,620	17,808,620	
0100007. 2001 CSO 3.50% CRVM	22,806,351	22,806,351	
0100008. 80 CSO Account Value	1,890,339,943	272,401,327	1,617,938,616
0100009. 2001 CSO Account Value	64,063,579	49,427,167	14,636,412
0199999. Life Insurance: Totals	2,873,773,418	1,241,198,390	1,632,575,028
0200001. Deferred Annuity 4.75% to 10.00% CARVM	11,049,660,762	11,049,660,762	
0200002. Annuity Reserve	42,899,301,640	82,637,724	42,816,663,916
0200003. Group Home Office and Field Plans	1,803,207,558		1,803,207,558
0299999. Annuities: Totals	55,752,169,960	11,132,298,486	44,619,871,474
9999999. Totals (to Page 3, Line 1)	58,625,943,378	12,373,496,876	46,252,446,502

EXHIBIT 3 - INTERROGATORIES

- 1.1 Has the reporting entity ever issued both participating and non-participating variable life insurance contracts?..... Yes No
- 2.1 Does the reporting entity at present issue both participating and non-participating variable life insurance contracts?..... Yes No
- 2.2 If not, state which kind is issued
- 3.1 Is any surrender value promised in excess of the reserve as legally computed? Yes No 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
 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 Description of Valuation Class	2 Valuation Basis		4 Increase in Actuarial Reserve Due to Change
	2 Changed From	3 Changed To	
NONE			
9999999 - Totals (Page 6, Line 5, Analysis of Increase in Reserves)			

ANNUAL STATEMENT FOR THE YEAR 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

EXHIBIT 4 - DEPOSIT TYPE CONTRACTS

	1	2	3	4	5	6
	Total	Guaranteed Interest Contracts	Annuities Certain	Supplemental Contracts	Dividend Accumulations or Refunds	Premium and Other Deposit Funds
1. Balance at the beginning of the year	8,186,897,605	1,398,839,499				6,788,058,106
2. Deposits received during the year	4,006,248,149	30,980,857				3,975,267,292
3. Investment earnings credited to account	1,765,533,423	132,077,769				1,633,455,654
4. Other net change in reserves	(280,628)					(280,628)
5. Fees and other charges assessed	49,724,722	3,944,358				45,780,364
6. Surrender charges						
7. Net surrender or withdrawal payments	3,038,953,384					3,038,953,384
8. Other net transfer to or (from) general account						
9. Balance at the end of current year (Lines 1+2+3+4-5-6-7-8)	10,869,720,443	1,557,953,767				9,311,766,676

ANNUAL STATEMENT FOR THE YEAR 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual 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		6,293,024,684
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		4,006,248,149
3. Investment income collected		3,681,373,584
4. Consideration on disposal of short-term bonds net of purchases		(399,346,168)
5. Consideration on disposal of investments (excluding short-term bonds)		34,978,704,717
6. Aggregate write-ins for other increases in funds from operations		
7. Total (Lines 1 to 6)		48,560,004,966
8. Cost of investments acquired (excluding short-term bonds)		33,756,444,943
9. Transfers from Separate Accounts on account of contract benefits:		
9.1 Death benefits		22,640,377
9.2 Matured endowments		
9.3 Annuity benefits		164,243,814
9.4 Supplementary contract benefits with life contingencies		
9.5 Accident and health benefits		
9.6 Surrender benefits and withdrawals for life contracts		11,768,537,730
9.7 Policy loans (net)		17,939,394
9.8 Transfers of reserves (net)		352,214,721
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		(178,114,493)
11. Withdrawals on deposit-type contract funds and other liabilities without life or disability contingencies		3,038,953,384
12. Investment expenses (Exhibit 1, Line 25)		1,629,803
12.1 Fees associated with investment management, administration and contract guarantees		401,014,109
13. Investment taxes, licenses and fees, excluding federal income taxes (Exhibit 2, Line 9)		
14. Total (Lines 8 to 13)		49,345,503,782
15. Funds from operations (Line 7 minus Line 14)		(785,498,816)
16. Surplus contributed or (withdrawn) during year		
17. Aggregate write-ins for other changes in funds		
18. Total funds (includes \$ net transfers from general account) (Lines 15 to 17)		(785,498,816)
19. Increase in payable for investments acquired, net of receivable for investments sold		(160,517,611)
20. Decrease in policy loans		
21. Aggregate write-ins for other reconciling items		7,804
22. Increase in cash (Line 18 to 21)		(946,008,623)
RECONCILIATION BETWEEN YEARS		
23. Cash and invested assets, December 31st of prior year		63,831,249,514
24. Increase in cash (Line 22)		(946,008,623)
25. Cost of invested assets acquired		36,950,140,051
26. Adjusted cost of assets disposed of		36,899,537,858
27. Increase in policy loans		
28. Accrual of discount less amortization of premium		186,718
29. Depreciation on real estate and other invested assets		
30. Increase in net unrealized gains		6,909,860,230
31. Aggregate write-ins for other reconciling items		
32. Cash and invested assets, December 31st of current year		69,845,890,032
DETAILS OF WRITE-INS		
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. Change in remittances and items not allocated		(183,134,132)
10.202. Foreign income tax recoverable		(17)
10.203. Miscellaneous		4,107,885
10.298. Summary of remaining write-ins for Line 10.2 from overflow page		911,771
10.299. Totals (Lines 10.201 thru 10.203 plus 10.298) (Line 10.2 above)		(178,114,493)
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. Foreign currency gain		7,804
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)		7,804
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		
1.2 Annuities		
1.3 Supplementary contracts with life contingencies		
1.4 Accident and health		
1.5 Miscellaneous reserves		
1.6 Total		
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)		
4. Total liabilities associated with guarantees (Lines 1.6 + 2.6 + 3)		
5. Total liabilities not associated with guarantees	70,230,699,186	100.0
6. Total Separate Accounts liabilities (Lines 4 + 5 = Page 3, Line 17)	70,230,699,186	100.0%

ANNUAL STATEMENT FOR THE YEAR 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual 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:

Note: A distinct product identifier shall be used for each product and shall be used consistently throughout the interrogatory.

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
	2 Registered with SEC	3 Not Registered with SEC				
Non-guaranteed Retirement Services SIAs		37,852,065,473	NO			
Separate Account Guaranteed Interest Contract		18,161,926,826	YES			
Individual Variable Annuity	11,194,507,529	591,101	YES			
Stable Value Bank-owned Life Insurance		1,601,307,591	YES			
Individual Variable Universal Life	922,819,985	252,445,495	YES			
Corporate-owned Life Insurance	118,026,931		YES			
Group Variable Universal Life	67,040,862		YES			
Individual Immediate Variable Annuity	58,138,814		YES			
Supplemental Account		1,828,578	NO			1,828,578
Synthetic Guaranteed Interest Contract			YES			
Included in the Separate Account Assets total are 20 contracts totaling \$91,842,907 that are non-insulated, exclusive of seed money and unsettled fees and expenses. Total MassMutual separate account assets are \$70,230,699,186 at 12/31/19. These 20 non-insulated contracts represent 0.13% of MassMutuals separate account balance at 12/31/19. Given the immateriality of the balances, we are disclosing the existence of these 20 non-insulated contracts, but are not preparing a separate green book blank.						
Totals	12,360,534,122	57,870,165,064	XXX			1,828,578

Note: 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.

1.01A 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.

1 Product Identifier	Not Registered with SEC		
	2 Private Placement Variable Annuity	3 Private Placement Life Insurance	4 Other (Not PPVA or PPLI)
Non-guaranteed Retirement Services SIAs			37,852,065,473
Separate Account Guaranteed Interest Contract			18,161,926,826
Stable Value Bank-owned Life Insurance			1,601,307,591
Individual Variable Universal Life			252,445,495
Supplemental Account			1,828,578
Individual Variable Annuity	232,881		358,220
Totals	232,881		57,869,932,183

ANNUAL STATEMENT FOR THE YEAR 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

- 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 [] No [X]
- 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.....\$
- 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\$
- 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 [X] No []
- 1.082 Other Fees and Expenses..... Yes [X] No []
- 1.083 Additional Required Surplus Amounts Yes [X] No []

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

	1 Seed Money	2 Fees and Expenses Due to the General Account	3 Additional Required Surplus Amounts
1.091 Under 1 Year			
1.092 1 Year - 3 Years			
1.093 Over 3 Years - 5 Years			
1.094 Over 5 Years			1,828,578
1.095 Total			1,828,578

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

ANNUAL STATEMENT FOR THE YEAR 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

GENERAL INTERROGATORIES

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

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, 2019		\$ 8,183,620
2.302 As of December 31, 2018		\$ 6,161,058
2.303 As of December 31, 2017		\$ 7,568,186
2.304 As of December 31, 2016		\$ 4,619,165
2.305 As of December 31, 2015		\$ 2,543,318

- 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 [X] No []
- 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
Synthetic Guaranteed Interest Contract	Yes	Douglas W. Taylor, FSA, MAAA, Vice President and Appointed Actuary
Separate Account Guaranteed Interest Contract	Yes	Douglas W. Taylor, FSA, MAAA, Vice President and Appointed Actuary
Individual Variable Annuity	No; the risk charges associated with this product are reviewed for reasonableness and accuracy by the appropriate actuary, but no formal opinion on these product risk charges is required by the NAIC.	
Individual Immediate Variable Annuity	No; the risk charges associated with this product are reviewed for reasonableness and accuracy by the appropriate actuary, but no formal opinion on these product risk charges is required by the NAIC.	

- 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, 2019		\$ 104,346,980
2.602 As of December 31, 2018		\$ 97,690,286
2.603 As of December 31, 2017		\$ 91,538,349
2.604 As of December 31, 2016		\$ 88,772,303
2.605 As of December 31, 2015		\$ 89,035,421

Investment Directive of Separate Account Activity

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

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

Allocation of Investment Proceeds of Separate Account Activity

- 4.1 Does the reporting entity have separate account assets in which less than 100% of investment proceeds (net of contract fees and assessments) are attributed to a contract holder? (This should identify any situations where there is a ceiling on investment performance results.) Yes [X] No []

GENERAL INTERROGATORIES

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
Non-guaranteed Retirement Services SIAs	(7,489,642,153)	(7,489,642,153)		
Separate Account Guaranteed Interest Contract	(1,702,592,024)	(1,702,592,024)		
Supplemental Account	(176,254)	(176,254)		

4.3 For items reinvested within the Separate Account, does the reporting entity invest these assets in accordance with investment directives of the general account? Yes [] No [] N/A [X]

4.4 If no, does the reporting entity have a stated policy and procedure for the reinvestment of investment proceeds within the separate account? Yes [] No [] N/A [X]

4.5 Did the reinvestment of investment proceeds within the separate account result with the company having a combined investment portfolio that exceeded the state investment limitations imposed on the general account? Yes [] No [] N/A [X]

Measurement of Separate Account Assets

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

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 [] No [X]
 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	\$ 70,230,699,186	100.0 %
5.42 Amortized Cost	\$	%
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 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.....\$

ANNUAL STATEMENT FOR THE YEAR 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

GENERAL INTERROGATORIES

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)	\$

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

GENERAL INTERROGATORIES

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	2
Product Identifier	Same as GAAP / Condition that Requires GAAP General Account Reporting
Separate Account Guaranteed Interest Contract	GAAP GIA classification / Investment Performance
Synthetic Guaranteed Interest Contract	GAAP GIA classification / Investment Performance
Supplemental Account	GAAP GIA classification / Investment Performance
Stable Value Bank-owned Life Insurance	GAAP GIA classification / Investment Performance
Non-guaranteed Retirement Services SIAs	Same as GAAP
Individual Variable Annuity	Same as GAAP
Individual Variable Universal Life	Same as GAAP
Group Variable Universal Life	Same as GAAP
Individual Immediate Variable Annuity	Same as GAAP
Corporate-owned Life Insurance	Same as GAAP

Interest Maintenance Reserve

NONE

Interest Maintenance Reserve - Amortization

NONE

Asset Valuation Reserve - Default Component

NONE

Asset Valuation Reserve - Equity Component

NONE

Asset Valuation Reserve - Replications (Synthetic) Assets

NONE

OVERFLOW PAGE FOR WRITE-INS

Additional Write-ins for Exhibit 5 Line 10.2

	1 Amount
10.204. Change in other transfers due and accrued	911,771
10.297. Summary of remaining write-ins for Line 10.2 from overflow page	911,771

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	.....	1,812,817
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.	Capitalized deferred interest and other:		
3.1	Totals, Part 1, Column 12	.....
3.2	Totals, Part 3, Column 11	.....
4.	Accrual of discount	.....
5.	Unrealized valuation increase (decrease):		
5.1	Totals, Part 1, Column 9	.....	73,855
5.2	Totals, Part 3, Column 8	.....	73,855
6.	Total gain (loss) on disposals, Part 3, Column 18	.....	(749)
7.	Deduct amounts received on disposals, Part 3, Column 15	.....	201,207
8.	Deduct amortization of premium and mortgage interest points and commitment fees	.....
9.	Total foreign exchange change in book value/recorded investment excluding accrued interest:		
9.1	Totals, Part 1, Column 13	.....
9.2	Totals, Part 3, Column 13	.....
10.	Deduct current year's other than temporary impairment recognized:		
10.1	Totals, Part 1, Column 11	.....
10.2	Totals, Part 3, Column 10	.....
11.	Book value/recorded investment excluding accrued interest at end of current period (Lines 1+2+3+4+5+6-7-8+9-10)	.....	1,684,716
12.	Total valuation allowance	.....
13.	Subtotal (Line 11 plus 12)	.....	1,684,716
14.	Deduct total nonadmitted amounts	.....
15.	Statement value of mortgages owned at end of current period (Line 13 minus Line 14)	.....	1,684,716

ANNUAL STATEMENT FOR THE YEAR 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE BA - VERIFICATION BETWEEN YEARS

Other Long-Term Invested Assets

1. Book/adjusted carrying value, December 31 of prior year	548,736,432
2. Cost of acquired:	
2.1 Actual cost at time of acquisition (Part 2, Column 8)	797,675,874
2.2 Additional investment made after acquisition (Part 2, Column 9)	469,435
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	36,152,123
5.2 Totals, Part 3, Column 9	(28,755,437)
6. Total gain (loss) on disposals, Part 3, Column 19	34,597,343
7. Deduct amounts received on disposals, Part 3, Column 16	423,668,334
8. Deduct amortization of premium and depreciation	
9. Total foreign exchange change in book/adjusted carrying value:	
9.1 Totals, Part 1, Column 17	
9.2 Totals, Part 3, Column 14	
10. Deduct current year's other than temporary impairment recognized:	
10.1 Totals, Part 1, Column 15	
10.2 Totals, Part 3, Column 11	
11. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5+6-7-8+9-10)	965,207,436
12. Deduct total nonadmitted amounts	
13. Statement value at end of current period (Line 11 minus Line 12)	965,207,436

SCHEDULE D - VERIFICATION BETWEEN YEARS

Bonds and Stocks

1. Book/adjusted carrying value, December 31 of prior year	60,740,052,849
2. Cost of bonds and stocks acquired, Part 3, Column 7	33,056,787,713
3. Accrual of discount	
4. Unrealized valuation increase (decrease):	
4.1. Part 1, Column 12	734,332,589
4.2. Part 2, Section 1, Column 15	
4.3. Part 2, Section 2, Column 13	5,748,469,144
4.4. Part 4, Column 11	539,040,023
5. Total gain (loss) on disposals, Part 4, Column 19	604,606,816
6. Deduction consideration for bonds and stocks disposed of, Part 4, Column 7	34,451,244,100
7. Deduct amortization of premium	
8. Total foreign exchange change in book/adjusted carrying value:	
8.1. Part 1, Column 15	(5,826)
8.2. Part 2, Section 1, Column 19	
8.3. Part 2, Section 2, Column 16	
8.4. Part 4, Column 15	144,549
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	4,192,684
11. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9+10)	66,976,376,440
12. Deduct total nonadmitted amounts	
13. Statement value at end of current period (Line 11 minus Line 12)	66,976,376,440

ANNUAL STATEMENT FOR THE YEAR 2019 OF THE SEPARATE ACCOUNTS OF THE Massachusetts Mutual 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
BONDS					
Governments (Including all obligations guaranteed by governments)	1. United States	2,432,833,363	2,432,833,363	2,384,592,000	2,372,733,071
	2. Canada	1,650,790	1,650,790	1,571,675	1,145,000
	3. Other Countries	134,316,822	134,316,822	120,178,431	112,373,000
	4. Totals	2,568,800,975	2,568,800,975	2,506,342,106	2,486,251,071
U.S. States, Territories and Possessions (Direct and guaranteed)	5. Totals	58,997,173	58,997,173	53,303,969	38,825,000
U.S. Political Subdivisions of States, Territories and Possessions (Direct and guaranteed)	6. Totals	6,041,926	6,041,926	4,991,337	4,440,000
U.S. Special Revenue and Special Assessment Obligations and all Non- Guaranteed Obligations of Agencies and Authorities of Governments and their Political Subdivisions	7. Totals	3,105,005,200	3,105,005,200	3,066,055,091	2,971,749,466
Industrial and Miscellaneous, SVO Identified Funds, Unaffiliated Bank Loans and Hybrid Securities (unaffiliated)	8. United States	10,303,746,527	10,303,746,527	9,940,626,915	9,855,436,330
	9. Canada	265,006,539	265,006,539	248,813,545	249,292,000
	10. Other Countries	2,120,136,817	2,120,136,817	2,062,410,299	2,036,278,798
	11. Totals	12,688,889,883	12,688,889,883	12,251,850,759	12,141,007,128
Parent, Subsidiaries and Affiliates	12. Totals				
	13. Total Bonds	18,427,735,157	18,427,735,157	17,882,543,262	17,642,272,665
PREFERRED STOCKS					
Industrial and Miscellaneous (unaffiliated)	14. United States				
	15. Canada				
	16. Other Countries				
	17. Totals				
Parent, Subsidiaries and Affiliates	18. Totals				
	19. Total Preferred Stocks				
COMMON STOCKS					
Industrial and Miscellaneous (unaffiliated)	20. United States	48,545,999,474	48,545,999,474	46,221,403,790	
	21. Canada	889,686	889,686	2,378,690	
	22. Other Countries	1,752,123	1,752,123	1,464,974	
	23. Totals	48,548,641,283	48,548,641,283	46,225,247,454	
Parent, Subsidiaries and Affiliates	24. Totals				
	25. Total Common Stocks	48,548,641,283	48,548,641,283	46,225,247,454	
	26. Total Stocks	48,548,641,283	48,548,641,283	46,225,247,454	
	27. Total Bonds and Stocks	66,976,376,440	66,976,376,440	64,107,790,716	

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	449,201,514	449,201,514			
2. Cost of short-term investments acquired	3,193,695,108	3,193,695,108			
3. Accrual of discount	73,633	73,633			
4. Unrealized valuation increase (decrease)					
5. Total gain (loss) on disposals	17,482,518	17,482,518			
6. Deduct consideration received on disposals	2,794,419,503	2,794,419,503			
7. Deduct amortization of premium	3,071	3,071			
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)	866,030,199	866,030,199			
11. Deduct total nonadmitted amounts					
12. Statement value at end of current period (Line 10 minus Line 11)	866,030,199	866,030,199			

(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 9, prior year)	195,515,460
2. Cost paid/(consideration received) on additions:	
2.1 Current year paid/(consideration received) at time of acquisition, still open, Section 1, Column 12	1,108,157
2.2 Current year paid/(consideration received) at time of acquisition, terminated, Section 2, Column 14	1,528,386
3. Unrealized valuation increase/(decrease):	
3.1 Section 1, Column 17	(64,228,755)
3.2 Section 2, Column 19	(4,992,152)
4. SSAP No. 108 Adjustments	
5. Total gain (loss) on termination recognized, Section 2, Column 22	70,638,385
6. Considerations received/(paid) on terminations, Section 2, Column 15	103,591,074
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	(8,602)
9.2 Section 2, Column 20	(150,913)
10. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6+7+8+9)	95,818,893
11. Deduct nonadmitted assets	
12. Statement value at end of current period (Line 10 minus Line 11)	95,818,893

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	(17,884,725)
3.14 Section 1, Column 18, prior year	32,325,646
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	(17,884,725)
3.24 Section 1, Column 19, prior year plus	32,325,646
3.25 SSAP No. 108 Adjustments	(50,210,371)
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)	125,135,654
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)	125,135,654
4.23 SSAP No. 108 Adjustments	125,135,654
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)	

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.....	95,818,893
2. Part B, Section 1, Column 15 plus Part B, Section 1 Footnote - Total Ending Cash Balance .....	.....
3. Total (Line 1 plus Line 2)	95,818,893
4. Part D, Section 1, Column 5	98,385,934
5. Part D, Section 1, Column 6	(2,567,041)
6. Total (Line 3 minus Line 4 minus Line 5) .....	.....
	Fair Value Check
7. Part A, Section 1, Column 16	95,818,893
8. Part B, Section 1, Column 13	(17,884,725)
9. Total (Line 7 plus Line 8)	77,934,168
10. Part D, Section 1, Column 8	98,385,934
11. Part D, Section 1, Column 9	(2,567,041)
12. Total (Line 9 minus Line 10 minus Line 11)	(17,884,725)
	Potential Exposure Check
13. Part A, Section 1, Column 21	93,575,835
14. Part B, Section 1, Column 20	31,140,340
15. Part D, Section 1, Column 11	124,716,175
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	1,789,727,646	1,759,742,396	29,985,250	
2. Cost of cash equivalents acquired	38,576,552,890	37,557,604,343	1,018,948,547	
3. Accrual of discount	116,156	116,156		
4. Unrealized valuation increase (decrease)				
5. Total gain (loss) on disposals	30,392,021	30,392,021		
6. Deduct consideration received on disposals	39,625,080,928	38,582,558,422	1,042,522,506	
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)	771,707,785	765,296,494	6,411,291	
11. Deduct total nonadmitted amounts				
12. Statement value at end of current period (Line 10 minus Line 11)	771,707,785	765,296,494	6,411,291	

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