

LIFE AND ACCIDENT AND HEALTH COMPANIES - ASSOCIATION EDITION

# **ANNUAL STATEMENT**

FOR THE YEAR ENDED DECEMBER 31, 2017 OF THE CONDITION AND AFFAIRS OF THE

NAIC Gr			fe Insurance Co any Code 70416 Employer's ID	
Organized under the Laws of	(Current)	(Prior)	, State of Domicile or Port of Entr	
Country of Domicile		United	States of America	
Incorporated/Organized	04/01/1935		Commenced Business	07/01/1894
Statutory Home Office	100 Bright Meadov	v Boulevard	,	Enfield , CT, US 06082
	(Street and N	umber)	(City or T	Town, State, Country and Zip Code)
Main Administrative Office		12	95 State Street	
0.	win winds I MA LIC 01111		eet and Number)	440 700 0444
	pringfield, MA, US 01111 wn, State, Country and Zip (	Code)	,(Are	413-788-8411 ea Code) (Telephone Number)
			· ·	
Mail Address	1295 State Street			Springfield , MA, US 01111
	(Street and Number or P	.O. Box)	(City of 1	Town, State, Country and Zip Code)
Primary Location of Books and Re	ecords	12		
0	vinatiald MA UC 01111	(Str	eet and Number)	410 700 0411
	pringfield, MA, US 01111 wn, State, Country and Zip (	Code)	,(Are	413-788-8411 ea Code) (Telephone Number)
Internet Website Address	····, -····, -····, -···	,	.massmutual.com	
Statutory Statement Contact		n G. McCallen,,,		413-744-3193
sm	ccallen@MassMutual.com			(Area Code) (Telephone Number) 413-226-4086
	(E-mail Address)		,	(FAX Number)
			OFFICERS	
President and Chief				
Executive Officer				Todd Garett Picken
Secretary	Pia Denise F	lanagan	Apointed Actuary	Douglas Wright Taylor
			OTHER	
Elizabeth Ward Chicares, Executive Vice President and Chief Financial Officer		Michael Robert Fanning, Executive Vice President		Melvin Timothy Corbett, Executive Vice President
		DIRECTO	ORS OR TRUSTEES	
Roger William Crano			ael Robert Fanning	Elizabeth Ward Chicares
Michael James (	D'Connor #			
State of	Massachusetts			
County of	Hampden	SS:		

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

Roger William Crandall	Pia Denise Flanagan	Todd Garett Picken
President and Chief Executive Officer	Secretary	Treasurer
Subscribed and sworn to before me this day of	a. Is this an original filing?b. If no, b. If no, 1. State the amendment numb 2. Date filed 3. Number of pages attached	per

1         2         Non-difference Assesses (2.8 Endote (Schedule D))         Non-difference Assesses (2.8 Endote Assesses)         Non-difference Assesses (2.8 Endote Assesses)         Non-difference Assesses (2.8 Endote Assesses)         Non-difference (2.8 Endote Assesses (C) Endote Babb)         Non-difference (2.8 Endote Assesses (C) Endote Babbb)         Non-difference (2.8 Endote Assesses)         Non-difference (2.8 Endote Assesses)         Non-difference (2.8 Endote Assesses)         Non-difference (2.8 Endote Assesses) <th>Prior Year 4 et Admitted Assets 310,216,800</th>	Prior Year 4 et Admitted Assets 310,216,800
Assets         Non-admitted Assets         Non-admited Assets         No	et Admitted <u>Assets</u> 310,216,800
1         Brocks (Schedule D)         312,452,230         \$12,452,230           2         Stocks (Schedule D):         2.1 Preferred alcobs         2.2           2.1 First liens         3,187,846         3,187,846         3,187,846           3.2 Other than first liens         3,187,846         3,187,846         3,187,846           3.2 Other than first liens         3,187,846         3,187,846         3,187,846           4. Real estate (Schedule A):         4.1 Properties occupied by the company (ses \$	310,216,800
2. Stocks (Schedule D):	
2.1 Prefered tools	
2.2 Common stocks	
3.       Mortgage loans on real estate (Schedule B):       3, 167, 866       3, 167, 866         3.1       First lines       3, 167, 866       3, 167, 866         4.       Real estate (Schedule A):       4, 14 Properties accupied by the company (loss \$	4,007,08
3.1 First lens       3.167,846       3.167,846         3.2 Other than first lens	4,007,08
2 2 Other than first lines.	4,007,08
4. Real estate (Schedule A):       4.1 Properties occupied by the company (less \$	
4.1 Properties occupied by the company (less \$	
encumbrances       4.2 Properties held for the production of income (less         \$       encumbrances)         4.3 Properties held for sate (less \$         encumbrances)       encumbrances)         4.3 Properties held for sate (less \$         encumbrances)       encumbrances)         5       encumbrances)         6       (3,042,971), Schedule E - Part 1), cash equivalents         (s       .57,109,342, Schedule D.P)         5       Derivatives (Schedule DB)         6       Contract leans (including \$         98,0957, Schedule DL)	
4.2 Properties held for the production of income (less <ul> <li>a Properties held for site (less \$</li> <li>encumbrances)</li> <li>Cash (\$</li> <li>(3, 042, 971), Schedule E - Part 1), cash equivalents</li> <li>(8,</li></ul>	
4.3 Properties held for sale (less \$	
encumbrances)	
(\$57, 190, 342         Schedule E - Part 2) and short-term         55, 147, 328         55, 147, 328           investments (\$99, 557         Schedule DA)         55, 147, 328         55, 147, 328           6.         Contractions (backling \$premium notes)         94, 484, 714         94, 484, 714           7.         Derivatives (Schedule DA)         94, 484, 714         94, 484, 714           8.         Other invested assets (Schedule BA)         94, 484, 714         94, 484, 714           9.         Receivables for securities         94, 484, 714         94, 484, 714           17.         Derivatives (Schedule BA)         94, 484, 714         94, 484, 714           18.         Other invested assets (Lines 1 to 11)         465, 272, 118         455, 272, 118           12.         Subtotals, cash and invested assets (Lines 1 to 11)         465, 272, 118         455, 272, 118           19.         Title plants less \$	
(\$57, 190, 342         Schedule E - Part 2) and short-term         55, 147, 328         55, 147, 328           investments (\$99, 557         Schedule DA)         55, 147, 328         55, 147, 328           6.         Contract leans (including \$premium notes)         94, 484, 714         94, 484, 714           9.         Derivatives (Schedule DB)         94, 484, 714         94, 484, 714           8.         Other invested assets (Schedule DL)         94, 484, 714         94, 484, 714           19.         Securities lending reinvested collateral assets (Schedule DL)         94, 484, 714         94, 484, 714           10.         Securities lending reinvested assets (Lines 1 to 11)         465, 272, 118         465, 272, 118           11.         Aggregate write-ris for invested assets (Lines 1 to 11)         465, 272, 118         465, 272, 118           12.         Subtotals, cash and invested assets (Lines 1 to 11)         455, 147, 328         465, 272, 118           13.         Tile pantiles less \$	
investments (\$ 999,957, Schedule DA)       55,147,328       55,147,328         6. Contract loans (including \$ premium notes)       94,484,714       94,484,714         7. Derivatives (Schedule DB)	
6. Contract loans (including \$	62.691.62
7. Derivatives (Schedule DB)	
8. Other invested assets (Schedule BA)	
9. Receivables for securities	
10.       Securities lending reinvested collateral assets (Schedule DL)	
11. Aggregate write-ins for invested assets       465,272,118         12. Subtotals, cash and invested assets (Lines 1 to 11)       465,272,118         13. Title plants less \$       charged off (for Title insurers only)         14. Investment income due and accrued       4,844,264         15. Premiums and considerations:       1,51 Uncollected premiums and agents' balances in the course of collection       1,354         15. 2 Deferred premiums and agents' balances and installments booked but deferred and not yet due (including \$       (2,877,328)         15.3 Accrued retrospective premiums (\$       ) and contracts subject to redetermination (\$       )         16. Reinsurance:       16.1 Amounts receivable from reinsurers       4,374,621         16.2 Funds held by or deposited with reinsured companies       19,410,141       19,410,141         17. Amounts receivable role reinsurance contracts       19,410,141       19,410,141         17. Amounts receivable role on deposit       208,300       208,300         18.1 Current federal and foreign income tax recoverable and interest thereon       2,872,829       2,877,829         19. Guaranty funds receivable on deposit       208,300       208,300         20. Electoric data processing equipment and software       208,300       208,300         21. Furniture and equipment, including health care delivery assets       146,347       146,344	
12.       Subtotals, cash and invested assets (Lines 1 to 11)       465,272,118       465,272,118         13.       Title plants less \$       charged off (for Title insurers only)       465,272,118       465,272,118         14.       Investment income due and accrued       4,844,264       .38,394       4,805,870         15.       Premiums and considerations:       1,1,354       .1,226       .128         15.2       Deferred premiums and agents' balances and installments booked but deferred and not yet due (including \$	
13. Title plants less \$	
only)	
14.       Investment income due and accrued       4,844,264       .38,394       .4,805,870         15.       Premiums and considerations:       1,354       1,226       .128         15.2       Deferred premiums and agents' balances and installments booked but deferred and not yet due (including \$	
15.       Premiums and considerations:       1,354       1,226       .128         15.1       Uncollected premiums and agents' balances and installments booked but deferred and not yet due (including \$	4 050 45
15.1 Uncollected premiums and agents' balances in the course of collection       1,354       1,226       128         15.2 Deferred premiums and agents' balances and installments booked but deferred and not yet due (including \$	
15.2 Deferred premiums and agents' balances and installments booked but deferred and not yet due (including \$	
deferred and not yet due (including \$	673
earned but unbilled premiums)       (2,877,328)       (2,877,328)         15.3 Accrued retrospective premiums (\$) and contracts subject to redetermination (\$).       )       (2,877,328)         16. Reinsurance:       16.1 Amounts recoverable from reinsurers       4,374,621       4,374,621         16.2 Funds held by or deposited with reinsured companies       19,410,141       19,410,141         17. Amounts receivable relating to uninsured plans       19,410,141       19,410,141         17. Amounts receivable relating to uninsured plans       10,316,666       8,671,871       1,644,775         18.1 Current federal and foreign income tax recoverable and interest thereon       2,872,829       2,872,829       2,872,829         18.2 Net deferred tax asset       10,316,666       8,671,871       1,644,775       1,644,775         19. Guaranty funds receivable or on deposit       208,300       208,300       208,300         20. Electronic data processing equipment and software       208,300       208,300       208,300         21. Furniture and equipment, including health care delivery assets       (\$	
15.3 Accrued retrospective premiums (\$) and contracts subject to redetermination (\$)	
contracts subject to redetermination (\$	
16. Reinsurance:       4,374,621       4,374,621         16.1 Amounts receivable from reinsurers       4,374,621       4,374,621         16.2 Funds held by or deposited with reinsured companies       19,410,141       19,410,141         17. Amounts receivable relating to uninsured plans       19,410,141       19,410,141         17. Amounts receivable relating to uninsured plans       2,872,829       2,872,829         18.1 Current federal and foreign income tax recoverable and interest thereon       2,872,829       2,872,829         18.2 Net deferred tax asset       10,316,646       8,671,871       1,644,775         19. Guaranty funds receivable or on deposit       208,300       208,300         20. Electronic data processing equipment and software       208,300       208,300         21. Furniture and equipment, including health care delivery assets       (\$	
16.1 Amounts recoverable from reinsurers       4,374,621       4,374,621         16.2 Funds held by or deposited with reinsured companies       16.3 Other amounts receivable under reinsurance contracts       19,410,141         17. Amounts receivable relating to uninsured plans       19,410,141       19,410,141         18.1 Current federal and foreign income tax recoverable and interest thereon       2,872,829       2,872,829         18.2 Net deferred tax asset       10,316,646       8,671,871       1,644,775         19. Guaranty funds receivable or on deposit       208,300       208,300       208,300         20. Electronic data processing equipment and software       208,300       208,300       208,300         21. Furniture and equipment, including health care delivery assets       (\$ )       146,234       146,234         23. Receivables from parent, subsidiaries and affiliates       146,234       146,234       146,234         25. Aggregate write-ins for other than invested assets       14,347       14,347       14,347         26. Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25)       504,583,525       8,711,491       495,872,034	
16.2 Funds held by or deposited with reinsured companies       19,410,141       19,410,141         17. Amounts receivable relating to uninsured plans       19,410,141       19,410,141         17. Amounts receivable relating to uninsured plans       2,872,829       2,872,829         18.1 Current federal and foreign income tax recoverable and interest thereon       2,872,829       2,872,829         18.2 Net deferred tax asset       10,316,646       8,671,871       1,644,775         19. Guaranty funds receivable or on deposit       208,300       208,300       208,300         20. Electronic data processing equipment and software       208,300       208,300       208,300         21. Furniture and equipment, including health care delivery assets       (\$	
16.3 Other amounts receivable under reinsurance contracts       19,410,141       19,410,141         17. Amounts receivable relating to uninsured plans       2,872,829       2,872,829         18.1 Current federal and foreign income tax recoverable and interest thereon       2,872,829       2,872,829         18.2 Net deferred tax asset       10,316,646       8,671,871       1,644,775         19. Guaranty funds receivable or on deposit       208,300       208,300       208,300         20. Electronic data processing equipment and software       208,300       208,300       208,300         21. Furniture and equipment, including health care delivery assets       (\$	2,911,68
17. Amounts receivable relating to uninsured plans	
18.1       Current federal and foreign income tax recoverable and interest thereon       2,872,829       2,872,829         18.2       Net deferred tax asset       10,316,646       .8,671,871       1,644,775         19.       Guaranty funds receivable or on deposit       .208,300       .208,300         20.       Electronic data processing equipment and software	
18.2 Net deferred tax asset       10,316,646       .8,671,871       1,644,775         19. Guaranty funds receivable or on deposit       208,300       .208,300       .208,300         20. Electronic data processing equipment and software	
19. Guaranty funds receivable or on deposit       208,300       208,300         20. Electronic data processing equipment and software       208,300       208,300         21. Furniture and equipment, including health care delivery assets       21.       21.         22. Net adjustment in assets and liabilities due to foreign exchange rates       23.       23.         23. Receivables from parent, subsidiaries and affiliates       146,234       146,234         24. Health care (\$) and other amounts receivable       14,347       14,347         25. Aggregate write-ins for other than invested assets       14,347       14,347         26. Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25)       504,583,525       .8,711,491       .495,872,034	
20. Electronic data processing equipment and software         21. Furniture and equipment, including health care delivery assets         (\$)         22. Net adjustment in assets and liabilities due to foreign exchange rates         23. Receivables from parent, subsidiaries and affiliates         24. Health care (\$) and other amounts receivable         25. Aggregate write-ins for other than invested assets         26. Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25)	6, 184,60
21. Furniture and equipment, including health care delivery assets	
(\$)	
22. Net adjustment in assets and liabilities due to foreign exchange rates	
23. Receivables from parent, subsidiaries and affiliates	
24. Health care (\$) and other amounts receivable	
25. Aggregate write-ins for other than invested assets	125,904
26. Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25)	
Protected Cell Accounts (Lines 12 to 25)	
The Fram Songrate Accounts Songrated Accounts and Protected Coll	502,235,638
27. From Separate Accounts, Segregated Accounts and Protected Cell       4,464,676,157       4,464,676,157         Accounts       4,464,676,157       4,464,676,157       4,464,676,157	
	4,814,287,01
DETAILS OF WRITE-INS	
1198. Summary of remaining write-ins for Line 11 from overflow page	
1199. Totals (Lines 1101 thru 1103 plus 1198)(Line 11 above)	
2502.	
2503.	
2598. Summary of remaining write-ins for Line 25 from overflow page	
2599. Totals (Lines 2501 thru 2503 plus 2598)(Line 25 above) 14,347 14,347	

### ASSETS

# LIABILITIES, SURPLUS AND OTHER FUNDS

	LIADILITILS, SUNPLUS AND UTTENTU	1 Current Year	2 Prior Year
1.	Aggregate reserve for life contracts		
2. 3.	Aggregate reserve for accident and health contracts (including \$		
	Liability for deposit-type contracts (Exhibit 7, Line 14, Col. 1) (including \$		
	<ul> <li>4.1 Life (Exhibit 8, Part 1, Line 4.4, Col. 1 less sum of Cols. 9, 10 and 11)</li> <li>4.2 Accident and health (Exhibit 8, Part 1, Line 4.4, sum of Cols. 9, 10 and 11)</li> </ul>	3,480,132	3,824,460
5.	Policyholders' dividends \$		
6.	Line 10) Provision for policyholders' dividends and coupons payable in following calendar year - estimated amounts:		
	6.1 Dividends apportioned for payment (including \$ Modco)		
-	6.3 Coupons and similar benefits (including \$ Modco)		
	Amount provisionally held for deferred dividend policies not included in Line 6 Premiums and annuity considerations for life and accident and health contracts received in advance less		
	discount; including      accident and health premiums (Exhibit 1, Part 1, Col. 1, sum of lines 4 and 14)	3 498	2 438
9.	Contract liabilities not included elsewhere:		<u>, 100</u>
	9.1 Surrender values on canceled contracts         9.2 Provision for experience rating refunds, including the liability of \$ accident and health		
	experience rating refunds of which \$ is for medical loss ratio rebate per the Public Health Service Act	12 886 554	14 578 631
	9.3 Other amounts payable on reinsurance, including \$ assumed and \$9,083,537		
	ceded		(3,421,656) 289,594
10.	Commissions to agents due or accrued-life and annuity contracts \$		
11.	Commissions and expense allowances payable on reinsurance assumed		
12. 13.	General expenses due or accrued (Exhibit 2, Line 12, Col. 6)		11,640
	allowances recognized in reserves, net of reinsured allowances)		
14. 15.1	Taxes, licenses and fees due or accrued, excluding federal income taxes (Exhibit 3, Line 9, Col. 5) Current federal and foreign income taxes, including \$ on realized capital gains (losses)		199,460 
	Net deferred tax liability		
17.	Amounts withheld or retained by company as agent or trustee	(18,048)	
18. 19.	Amounts held for agents' account, including \$ agents' credit balances Remittances and items not allocated	(345.934)	5.895.429
20.	Net adjustment in assets and liabilities due to foreign exchange rates		
21. 22.	Liability for benefits for employees and agents if not included above Borrowed money \$ and interest thereon \$		
23. 24.	Dividends to stockholders declared and unpaid		
	24.01 Asset valuation reserve (AVR, Line 16, Col. 7)		
	24.02 Reinsurance in unauthorized and certified (\$) companies) companies         24.03 Funds held under reinsurance treaties with unauthorized and certified (\$) reinsurers		
	24.04 Payable to parent, subsidiaries and affiliates	618,012	2,310,794
	24.06 Liability for amounts held under uninsured plans		
	24.07 Funds held under coinsurance		
	24.09 Payable for securities		
	24.11 Capital notes \$ and interest thereon \$		
25. 26.	Aggregate write-ins for liabilities	367,198 200,565,666	187,860 213,941,199
27.	From Separate Accounts Statement	4,464,676,157	4,312,051,379
28. 29.	Total liabilities (Lines 26 and 27) Common capital stock	4,665,241,824	4,525,992,578
30. 31.	Preferred capital stock Aggregate write-ins for other than special surplus funds		
32.	Surplus notes		
33. 34.	Gross paid in and contributed surplus (Page 3, Line 33, Col. 2 plus Page 4, Line 51.1, Col. 1) Aggregate write-ins for special surplus funds		
35. 36.	Unassigned funds (surplus) Less treasury stock, at cost:		
50.	36.1 shares common (value included in Line 29 \$ )		
37.	36.2 shares preferred (value included in Line 30 \$)	292,806,167	285,794,239
38.	Totals of Lines 29, 30 and 37 (Page 4, Line 55)	295,306,367	288,294,439
39.	Totals of Lines 28 and 38 (Page 2, Line 28, Col. 3) DETAILS OF WRITE-INS	4,960,548,191	4,814,287,017
2503.	Funds awaiting escheat	·	
2598. 2599.	Summary of remaining write-ins for Line 25 from overflow page Totals (Lines 2501 thru 2503 plus 2598)(Line 25 above)		187,860
3101.	· · · · · ·		,
3102. 3103.			
3198. 3199.	Summary of remaining write-ins for Line 31 from overflow page Totals (Lines 3101 thru 3103 plus 3198)(Line 31 above)		
3401.			
3402. 3403.			
3498. 3499.	Summary of remaining write-ins for Line 34 from overflow page Totals (Lines 3401 thru 3403 plus 3498)(Line 34 above)		
5433.	י סומוס (בחוסט סדט ד נוווע סדטט פועט סדטט)(בוווכ סד מטטייב)		

# SUMMARY OF OPERATIONS

		1	2
		Current Year	Prior Year
1.	Premiums and annuity considerations for life and accident and health contracts (Exhibit 1, Part 1, Line 20.4, Col. 1, less		
_	Col. 11)		
	Considerations for supplementary contracts with life contingencies		
	Net investment income (Exhibit of Net Investment Income, Line 17)	129,030	199 040
4. 5.	Amortization of Interest Maintenance Reserve (IMR, Line 5) Separate Accounts net gain from operations excluding unrealized gains or losses	120,972	100,040
6.	Commissions and expense allowances on reinsurance ceded (Exhibit 1, Part 2, Line 26.1, Col. 1)		
7.	Reserve adjustments on reinsurance ceded	(70, 296, 124)	112 685 751
	Miscellaneous Income:		
•••	8.1 Income from fees associated with investment management, administration and contract guarantees from Separate		
	Accounts		
	8.2 Charges and fees for deposit-type contracts		
	8.3 Aggregate write-ins for miscellaneous income		(761,293)
	Total (Lines 1 to 8.3)	24,458,521	153,361,939
10.	Death benefits		40,748,262
11.	Matured endowments (excluding guaranteed annual pure endowments)		
12.	Annuity benefits (Exhibit 8, Part 2, Line 6.4, Cols. 4 + 8)	1,346,506	
13.	Disability benefits and benefits under accident and health contracts		
14.	Coupons, guaranteed annual pure endowments and similar benefits	4 250 660	10 200 260
15. 16.			
17.	Group conversions Interest and adjustments on contract or deposit-type contract funds	766 371	
17.	Payments on supplementary contracts with life contingencies		1,030,033
19.	Increase in aggregate reserves for life and accident and health contracts		1,920,099
20.	Totals (Lines 10 to 19)		
	Commissions on premiums, annuity considerations, and deposit-type contract funds (direct business only) (Exhibit 1, Part		
	2, Line 31, Col. 1)	2,895,218	
22.	Commissions and expense allowances on reinsurance assumed (Exhibit 1, Part 2, Line 26.2, Col. 1)		
23.	General insurance expenses (Exhibit 2, Line 10, Cols. 1, 2, 3 and 4)	7,788,671	7,955,012
24.	Insurance taxes, licenses and fees, excluding federal income taxes (Exhibit 3, Line 7, Cols. 1 + 2 + 3)	1, 146, 318	
25.	Increase in loading on deferred and uncollected premiums	(523)	(792)
26.	Net transfers to or (from) Separate Accounts net of reinsurance		(35,570,149)
27.	Aggregate write-ins for deductions	(3,076,085)	34,553,217
28.	Totals (Lines 20 to 27)	12,224,787	107,492,862
29.	Net gain from operations before dividends to policyholders and federal income taxes (Line 9 minus Line 28)		
30.	Dividends to policyholders		
31.	Net gain from operations after dividends to policyholders and before federal income taxes (Line 29 minus Line 30)		
32.	Federal and foreign income taxes incurred (excluding tax on capital gains)	(2,569,559)	25,634,294
33.	Net gain from operations after dividends to policyholders and federal income taxes and before realized capital gains or		
	(losses) (Line 31 minus Line 32)	14,803,294	
34.	Net realized capital gains (losses) (excluding gains (losses) transferred to the IMR) less capital gains tax of	40.440	00.050
	\$	18,418	20,356
35.	Net income (Line 33 plus Line 34)	14,821,712	
	CAPITAL AND SURPLUS ACCOUNT	000 004 400	001 001 005
36.	Capital and surplus, December 31, prior year (Page 3, Line 38, Col. 2)	288,294,439	231,301,005
	Net income (Line 35)		
38.	Change in net unrealized capital gains (losses) less capital gains tax of \$		
	Change in net unrealized foreign exchange capital gain (loss)	(0, 202, 0)	10 010 000
40.	Change in net deferred income tax		
41.	Change in nonadmitted assets		
42. 43.	Change in liability for reinsurance in unauthorized and certified companies Change in reserve on account of change in valuation basis, (increase) or decrease		
43.	Change in asset valuation reserve	(72 527)	
	Change in treasury stock (Page 3, Lines 36.1 and 36.2, Col. 2 minus Col. 1)		
46.	Surplus (contributed to) withdrawn from Separate Accounts during period		
47.	Other changes in surplus in Separate Accounts Statement		
48.	Change in surplus notes		
49.	Cumulative effect of changes in accounting principles		
50.	Capital changes:		
	50.1 Paid in		
	50.2 Transferred from surplus (Stock Dividend)		
	50.3 Transferred to surplus		
51.	Surplus adjustment:		
	51.1 Paid in		
	51.2 Transferred to capital (Stock Dividend)		
	51.3 Transferred from capital		
50	51.4 Change in surplus as a result of reinsurance		
	Dividends to stockholders		24 662 620
	Aggregate write-ins for gains and losses in surplus	(3,113,071)	34,663,629
	Net change in capital and surplus for the year (Lines 37 through 53) Capital and surplus, December 31, current year (Lines 36 + 54) (Page 3, Line 38)	7,011,928	56,993,434 288,294,439
55.	DETAILS OF WRITE-INS	295,300,307	200,294,439
00 001	Management and administrative fees	(1 655 971)	(1 744 229)
	Revenue sharing		
	Niscellaneous		
	Summary of remaining write-ins for Line 8.3 from overflow page		
	Totals (Lines 08.301 thru 08.303 plus 08.398)(Line 8.3 above)	(733,810)	(761,293)
	Reinsurance ceded adjustment		
	Miscellaneous charges to operations		(110,412)
			(110,412)
	Summary of remaining write-ins for Line 27 from overflow page		
	Totals (Lines 2701 thru 2703 plus 2798)(Line 27 above)	(3,076,085)	34,553,217
	Reinsurance ceded adjustment		
	Other changes to surplus		
5303.			
	Summary of remaining write-ins for Line 53 from overflow page		
	Totals (Lines 5301 thru 5303 plus 5398)(Line 53 above)	(3,113,071)	34,663,629
-	· · · · · · · · · · · · · · · · · · ·	· · · · ·	

# **CASH FLOW**

		1	2
		Current Year	Prior Year
	Cash from Operations		
1.	Premiums collected net of reinsurance	1,840,797	(102,483,538)
2.	Net investment income	16,830,381	
3.	Miscellaneous income	19,907,820	243,146,856
4.	Total (Lines 1 through 3)		154,644,742
5.	Benefit and loss related payments		
6.	Net transfers to Separate Accounts, Segregated Accounts and Protected Cell Accounts	(36,494,573)	(35,033,623)
7.	Commissions, expenses paid and aggregate write-ins for deductions		
8.	Dividends paid to policyholders		
9.	Federal and foreign income taxes paid (recovered) net of \$436,276 tax on capital gains (losses)	18,995,860	3,948,825
10.	Total (Lines 5 through 9)	47,077,365	75,919,541
11.	Net cash from operations (Line 4 minus Line 10)	(8,498,367)	78,725,201
	Oracle from Investments		
10	Cash from Investments		
12.	Proceeds from investments sold, matured or repaid: 12.1 Bonds	22 506 216	17 000 740
	12.2 Stocks		1 922 747
	12.4 Real estate		
	12.5 Other invested assets		(156)
	12.6 Net gains or (losses) on cash, cash equivalents and short-term investments		
	12.7 Miscellaneous proceeds		124,096
10	12.8 Total investment proceeds (Lines 12.1 to 12.7)		49,780,433
13.	Cost of investments acquired (long-term only): 13.1 Bonds	25 609 120	125 100 254
	13.2 Stocks		2,992
	13.4 Real estate		
	13.5 Other invested assets		
	13.6 Miscellaneous applications		
	13.7 Total investments acquired (Lines 13.1 to 13.6)		135,103,246
14	Net increase (decrease) in contract loans and premium notes		(458,743)
14.	Net ash from investments (Line 12.8 minus Line 13.7 minus Line 14)		(84,864,070)
15.	Net cash from investments (Line 12.6 minus Line 13.7 minus Line 14)	(522,263)	(04,004,070)
	Cash from Financing and Miscellaneous Sources		
16.	Cash provided (applied):		
	16.1 Surplus notes, capital notes		
	16.2 Capital and paid in surplus, less treasury stock		
	16.3 Borrowed funds		
	16.4 Net deposits on deposit-type contracts and other insurance liabilities	1, 162, 504	1,386,252
	16.5 Dividends to stockholders		
	16.6 Other cash provided (applied)	313,849	6,154,814
17.	Net cash from financing and miscellaneous sources (Lines 16.1 to 16.4 minus Line 16.5 plus Line 16.6)	1,476,353	7,541,066
	RECONCILIATION OF CASH, CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS		
18.	Net change in cash, cash equivalents and short-term investments (Line 11, plus Lines 15 and 17)	(7,544,297)	1,402,197
19.	Cash, cash equivalents and short-term investments:		
	19.1 Beginning of year		61,289,428
	19.2 End of year (Line 18 plus Line 19.1)	55,147,328	62,691,625
Note: Si	upplemental disclosures of cash flow information for non-cash transactions:		
		0 100 500	040.055

20.0001. Bond conversions and refinancing	2, 109, 583	
20.0002. Interest capitalization for long-term debt		

### ANNUAL STATEMENT FOR THE YEAR 2017 OF THE MML Bay State Life Insurance Company ANALYSIS OF OPERATIONS BY LINES OF BUSINESS

					CRATION		5 01 005						1
		1	2		Ordinary		6	Gro			Accident and Health		12
				3	4	5 Supplementary	Credit Life (Group	7 Life Insurance	8	9	10 Credit (Group and	11	Aggregate of All Other Lines of
		Total	Industrial Life	Life Insurance	Individual Annuities	Contracts	and Individual)	(a)	Annuities	Group	Individual)	Other	Business
1.	Premiums and annuity considerations for life and accident and health contracts	1,590,674											
2.	Considerations for supplementary contracts with life contingencies												
3.	Net investment income							1,727,910					
4.	Amortization of Interest Maintenance Reserve (IMR)												
5.	Separate Accounts net gain from operations excluding unrealized gains or losses												
6.	Commissions and expense allowances on reinsurance ceded	.9,249,829		3,373,894									
7.	Reserve adjustments on reinsurance ceded	(70,296,124)		(55,912,773)				(14,383,351)					
8.	Miscellaneous Income:												
	8.1 Fees associated with income from investment management, administration and contract guarantees from Separate Accounts				616,200								
	8.2 Charges and fees for deposit-type contracts	(700.040)											
	8.3 Aggregate write-ins for miscellaneous income	(733,810)		613,863	103,545			(1,451,218)					
9.	Totals (Lines 1 to 8.3)	24,458,521		3,181,632	1,022,739	79,672		20, 174, 478					
10.	Death benefits			1, 191,240									
11.	Matured endowments (excluding guaranteed annual pure endowments)												
12.	Annuity benefits	1,346,506			1,346,506								
13.	Disability benefits and benefits under accident and health contracts												
14.	Coupons, guaranteed annual pure endowments and similar benefits												
15.	Surrender benefits and withdrawals for life contracts	4,350,669											
16.	Group conversions												
17.	Interest and adjustments on contract or deposit-type contract funds			8, 138	2,637								
18.	Payments on supplementary contracts with life contingencies												
19.	Increase in aggregate reserves for life and accident and health contracts	2,248,073		2,086,763	102,333			58,977					
20.	Totals (Lines 10 to 19)			4,131,971									
21.	Commissions on premiums, annuity considerations and deposit-type contract funds (direct business only)	2,895,218		1,470,135				1,370,773					
22.	Commissions and expense allowances on reinsurance assumed	7 700 074											
23.	General insurance expenses	7,788,671			603,837			1,466,758					
24.	Insurance taxes, licenses and fees, excluding federal income taxes	1, 146, 318		1, 111, 402									
25.	Increase in loading on deferred and uncollected premiums				(4.754.504)			(00 540 044)					
26.	Net transfers to or (from) Separate Accounts net of reinsurance	(44,052,055)		(15,754,560)	(4,754,581)			(23,542,914)					
27.	Aggregate write-ins for deductions	(3,076,085)		(3,091,821)	6,415			9,321					
28.	Totals (Lines 20 to 27)	12,224,787		(6,419,844)	1,175,536	279,938		17, 189, 156					
29.	Net gain from operations before dividends to policyholders and federal income taxes (Line 9 minus Line 28)				(152,797)	(200,266)		2,985,322					
30.	Dividends to policyholders												
31.	Net gain from operations after dividends to policyholders and before federal	10 000 705		0 001 470	(150 707)	(000,000)		0.005.000					
	income taxes (Line 29 minus Line 30)				(152,797) (175,806)	(200,266) (71,398)		2,985,322 (758,185)					
32.	Federal income taxes incurred (excluding tax on capital gains)	(2,009,009)		(1,004,1/0)	(1/0,806)	(71,398)		(708,185)					
33.	Net gain from operations after dividends to policyholders and federal income taxes and before realized capital gains or (losses) (Line 31 minus Line 32)	14,803,294		11, 165, 646	23,009	(128,868)		3,743,507					
	DETAILS OF WRITE-INS			]									
08.301.	Management and administrative fees	(1,655,871)						(1,655,871).					
08.302.	Revenue sharing												
08.303.	Other miscellaneous income			(142,491)									
08.398.	Summary of remaining write-ins for Line 8.3 from overflow page												
08.399.	Totals (Lines 08.301 thru 08.303 plus 08.398) (Line 8.3 above)	(733,810)		613,863	103,545			(1,451,218)					
2701.	Reinsurance ceded adjustment	(3, 117, 355)		(3, 117, 355)									
2702.	Miscellaneous charges to operations				6,415			9,321					
2703.													
2798.	Summary of remaining write-ins for Line 27 from overflow page												
2799.	Totals (Lines 2701 thru 2703 plus 2798) (Line 27 above)	(3,076,085)		(3,091,821)	6,415			9,321					
	(a) Includes the following amounts for EEGLI/SGLI: Line 1	Line 10		Line 16		Line 23		Line 24					

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

# ANALYSIS OF INCREASE IN RESERVES DURING THE YEAR

	1	2		Ordinary		6	Grou	0
			3	4	5 Supplementary	Credit Life (Group and	7	8
	Total	Industrial Life	Life Insurance	Individual Annuities	Contracts	Individual)	Life Insurance	Annuities
Involving Life or Disability Contingencies (Reserves)								
(Net of Reinsurance Ceded)								
1. Reserve December 31, prior year				3,743,725			1,419,801	
2. Tabular net premiums or considerations	1,038,638							
3. Present value of disability claims incurred					XXX			
4. Tabular interest	5,468,101		5,369,041					
5. Tabular less actual reserve released				118,398				
6. Increase in reserve on account of change in valuation basis								
6.1 Change in excess of VM-20 deterministic/stochastic reserve over net premium reserve		XXX		xxx	XXX		xxx	XXX
7. Other increases (net)	476,677			(182,229)			658,906	
8. Totals (Lines 1 to 7)	145,639,941		139,133,054	3,972,065			2,534,822	
9. Tabular cost								
10. Reserves released by death			6,356,253	xxx	XXX			XXX
11. Reserves released by other terminations (net)	43,467,224			3,806,672				
12. Annuity, supplementary contract and disability payments involving life contingencies	1,368,008			1,067,832				
13. Net transfers to or (from) Separate Accounts	(94,282,888)		(43,506,967)	(4,748,497)			(46,027,424)	
14. Total Deductions (Lines 9 to 13)	4,853,742		3,671,691	126,007			1,056,044	
15. Reserve December 31, current year	140,786,199		135,461,363	3,846,058			1,478,778	

### ANNUAL STATEMENT FOR THE YEAR 2017 OF THE MML Bay State Life Insurance Company EXHIBIT OF NET INVESTMENT INCOME

			1		2
			ted During Year		
1.	U.S. Government bonds	(a)			618,102
1.1	Bonds exempt from U.S. tax				
1.2	Other bonds (unaffiliated)	(a)	10 , 459 , 264		10 , 710 , 580
1.3	Bonds of affiliates	(a)	144,833		
2.1	Preferred stocks (unaffiliated)	(b)			
2.11	Preferred stocks of affiliates	(b)			
2.2	Common stocks (unaffiliated)				
2.21	Common stocks of affiliates				
3.	Mortgage loans	(c)			
4.	Real estate				
5	Contract loans		5,062,261		5,046,489
6	Cash, cash equivalents and short-term investments	(e)	710,395		
7	Derivative instruments	(f)			
8.	Other invested assets				
9.	Aggregate write-ins for investment income				
10.	Total gross investment income		17,905,852		18,257,086
11.	Investment expenses			(g)	
12.	Investment taxes, licenses and fees, excluding federal income taxes			(g)	
13.	Interest expense				
14.	Depreciation on real estate and other invested assets			(i)	
15.	Aggregate write-ins for deductions from investment income				
16.	Total deductions (Lines 11 through 15)				
17.	Net investment income (Line 10 minus Line 16)				17,590,030
	DETAILS OF WRITE-INS				
0901.	Miscellaneous Income				
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)		773,595		773,595
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)				
1000.				1	

(a) Includes \$		accrual of discount less \$559,786	amortization of premium and less \$55, 166	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 \$2,771	amortization of premium and less \$	paid for accrued interest on purchases.
(d) Includes \$		for company's occupancy of its own building	s; and excludes \$ interest on encur	nbrances.
(e) Includes \$		accrual of discount less \$	amortization of premium and less \$	paid for accrued interest on purchases.
(f) Includes \$		accrual of discount less \$	amortization of premium.	
	and Separate Acco		investment taxes, licenses and fees, excluding fede	ral income taxes, attributable to
(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
				Total Realized	Change in	Change in Unrealized
		Realized Gain (Loss)	Other Realized	Capital Gain (Loss)	Unrealized	Foreign Exchange
		On Sales or Maturity	Adjustments	(Columns 1 + 2)	Capital Gain (Loss)	Capital Gain (Loss)
1.	U.S. Government bonds					
1.1	Bonds exempt from U.S. tax					
1.2	Other bonds (unaffiliated)					
1.3	Bonds of affiliates				(47,442)	
2.1	Preferred stocks (unaffiliated)					
2.11	Preferred stocks of affiliates					
2.2	Common stocks (unaffiliated)					
2.21	Common stocks of affiliates					
3.	Mortgage loans					
4.	Real estate					
5.	Contract loans					
6.	Cash, cash equivalents and short-term investments			25		
7.	Derivative instruments					
8.	Other invested assets					
9.	Aggregate write-ins for capital gains (losses)					
10.	Total capital gains (losses)	10,060	(41,351)	(31,291)	(46,975)	
	DETAILS OF WRITE-INS					
0901.	Miscellaneous gain and loss					
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)	84,970		84,970		

ANNUAL STATEMENT FOR THE YEAR 2017 OF THE MML Bay State Life Insurance Company EXHIBIT - 1 PART 1 - PREMIUMS AND ANNUITY CONSIDERATIONS FOR LIFE AND ACCIDENT AND HEALTH CONTRACTS

		1	2	Ordi		5		oup		Accident and Health		11
		<b>T</b>		3	4 Individual	Credit Life (Group	6	7	8	9 Credit (Group and	10	Aggregate of All Other Lines of
	FIRST YEAR (other than single)	Total	Industrial Life	Life Insurance	Annuities	and Individual)	Life Insurance	Annuities	Group	Individual)	Other	Business
1	Uncollected											
	Deferred and accrued											
	Deferred, accrued and uncollected:											
5.	3.1 Direct											
	3.2 Reinsurance assumed											
	3.3 Reinsurance ceded											
	3.4 Net (Line 1 + Line 2)											
4.	Advance											
	Line 3.4 - Line 4											
	Collected during year:											
	6.1 Direct											
	6.2 Reinsurance assumed											
	6.3 Reinsurance ceded											
	6.4 Net	(122)		( 122)								
7.	Line 5 + Line 6.4	( 122)		(122)								
8.	Prior year (uncollected + deferred and accrued - advance)											
9.	First year premiums and considerations:											
	9.1 Direct											
	9.2 Reinsurance assumed											
	9.3 Reinsurance ceded											
	9.4 Net (Line 7 - Line 8)	( 122)		( 122)								
	SINGLE											
10.	Single premiums and considerations: 10.1 Direct											
	10.2 Reinsurance assumed											
	10.3 Reinsurance ceded											
	10.4 Net											
	RENEWAL											
	Uncollected	1,419		1,419								
	Deferred and accrued	(15,347,231)		(2,692,236)			( 12,654,995)					
13.	Deferred, accrued and uncollected:											
	13.1 Direct	(12,796,661)					(12,886,554)					
	13.2 Reinsurance assumed											
	13.3 Reinsurance ceded	2,549,152		2,780,711			(231,559)					
	13.4 Net (Line 11 + Line 12)	(15,345,812)		(2,690,817)			(12,654,995)					
14.	Advance			3,498								
15.	Line 13.4 - Line 14	(15,349,311).		(2,694,316)			(12,654,995)					
16.	Collected during year:											
	16.1 Direct			35,305,578								
	16.2 Reinsurance assumed											
	16.3 Reinsurance ceded											
. –	16.4 Net	1,840,919		1,772,901								
17.	Line 15 + Line 16.4	(13,508,392)					(12,780,088)			·		
18.	Prior year (uncollected + deferred and accrued - advance)	(15,099,188)		(1,861,262)			(13,237,926)					
19.	Renewal premiums and considerations: 19.1 Direct	07 004 000		05 004 005	100		1 700 500					
	19.1 Direct						1,729,532					
	19.2 Reinsurance assumed	05 000 E40		04 001 040			1 071 000					
	19.3 Reinsurance ceded				193,111		1,271,693 457,838			·		
	TOTAL	1,090,796		939,647	193,111	+	407,838					
20	TOTAL Total premiums and annuity considerations:											
∠0.	20.1 Direct											
	20.1 Direct 20.2 Reinsurance assumed											
	20.2 Reinsurance assumed						1,271,693			· [ [-		

# EXHIBIT - 1 PART 2 - DIVIDENDS AND COUPONS APPLIED, REINSURANCE COMMISSIONS AND EXPENSE ALLOWANCES AND COMMISSIONS INCURRED (Direct Business Only)

	1	2	Ordi	nary	5	Gro	up		Accident and Health		11
			3	4 Individual	Credit Life (Group	6	7	8	9 Credit (Group and	10	Aggregate of All Other Lines of
	Total	Industrial Life	Life Insurance	Annuities	and Individual)	Life Insurance	Annuities	Group	Individual)	Other	Business
DIVIDENDS AND COUPONS APPLIED											
(included in Part 1)											
21. To pay renewal premiums											
22. All other											
REINSURANCE COMMISSIONS AND											
EXPENSE ALLOWANCES INCURRED											
23. First year (other than single):											
23.1 Reinsurance ceded											
23.2 Reinsurance assumed											
23.3 Net ceded less assumed											
24. Single:											
24.1 Reinsurance ceded											
24.2 Reinsurance assumed											
24.3 Net ceded less assumed											
25. Renewal:											
25.1 Reinsurance ceded	9,249,829		3,373,894			5,875,935					
25.2 Reinsurance assumed											
25.3 Net ceded less assumed			3,373,894			5,875,935					
26. Totals:											
26.1 Reinsurance ceded (Page 6, Line 6)			3,373,894			5,875,935					
26.2 Reinsurance assumed (Page 6, Line 22)											
26.3 Net ceded less assumed	9,249,829		3,373,894			5,875,935					
COMMISSIONS INCURRED											
(direct business only)											
27. First year (other than single)											
28. Single											
29. Renewal	2,796,261		1,371,178			1,370,773					
30. Deposit-type contract funds											
31. Totals (to agree with Page 6, Line 21)	2,895,218		1,470,135	54,310		1,370,773					

### ANNUAL STATEMENT FOR THE YEAR 2017 OF THE MML Bay State Life Insurance Company EXHIBIT 2 - GENERAL EXPENSES

		1	Insura Accident a		4	5	6
		Life	2 Cost Containment	3 All Other	All Other Lines of Business	Investment	Total
1.	Rent						
	Salaries and wages	2,684,796					2.716.89
						7,430	.628,83
							231.31
		=======================================			-		=01,01
					-		
					-		23.53
		9.350				112	9.46
		53.520				640	
		7.428				89	7.51
							9.49
						1.952	
						1,406	
						2, 105	
6.2							
6.3							
6.4							
6.5	Collection and bank service charges						
6.6							
6.7	Group service and administration fees	639 , 530				7,647	647 , 17
6.8							
7.1	Agency expense allowance						
7.2	Agents' balances charged off (less \$						
	recovered)						
7.3							
	<b>o</b> ,						
	Aggregate write-ins for expenses	756.404				1.284	757.68
	General expenses incurred	7 788 671					8,452,43
	General expenses unpaid December 31, prior year					170,796	2.320.82
12.	General expenses unpaid December 31, pror year	579 913				49,421	629.33
	Amounts receivable relating to uninsured plans, prior year						
	General expenses paid during year (Lines 10+11-12-13+14)	9.358.786				785,138	10,143,92
		9,000,700				705, 150	10, 143, 92
	DETAILS OF WRITE-INS	640,000					640.00
					·	1,284	
			+				
9 399	Totals (Lines 09.301 thru 09.303 plus 09.398) (Line 9.3 above)	756,404	1			1.284	757,68

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

			Insurance		4	5
		1	2	3		
				All Other Lines of		
		Life	Accident and Health	Business	Investment	Total
1.	Real estate taxes					
2.	State insurance department licenses and fees					
3.	State taxes on premiums					
4.	Other state taxes, including \$					
	for employee benefits					
5.	U.S. Social Security taxes					
6.	All other taxes					
7.	Taxes, licenses and fees incurred	1, 146, 318				1,149,610
8.	Taxes, licenses and fees unpaid December 31, prior year					
9.	Taxes, licenses and fees unpaid December 31, current year	229,319			659	229,978
10.	Taxes, licenses and fees paid during year (Lines 7 + 8 - 9)	1,116,016			3,076	1,119,092

### **EXHIBIT 4 - DIVIDENDS OR REFUNDS**

		1	2
		Life	Accident and Health
1.	Applied to pay renewal premiums		
2.	Applied to shorten the endowment or premium-paying period		
3.	Applied to provide paid-up additions		
4.	Applied to provide paid-up annuities		
5.	Total Lines 1 through 4		
6.	Paid in cash		
7.	Left on deposit		
8.	Aggregate write-ins for dividend or refund options		
9.	Total Lines 5 through 8		
10.	Amount due and unpaid		
11.	Provision for dividends or refunds payable in the following calendar year		
12.	Terminal dividends		
13.	Provision for deferred dividend contracts		
14.	Amount provisionally held for deferred dividend contract and blude in Li 3		
15.	Total Lines 10 through 14		
16.	Total from prior year	-	
17.	Total dividends or refunds (Lines 9 + 15 - 16)		
	DETAILS OF WRITE-INS		
0801.			
0802.			
0803.			
0898.	Summary of remaining write-ins for Line 8 from overflow page		
0899.	Totals (Lines 0801 thru 0803 plus 0898) (Line 8 above)		

### ANNUAL STATEMENT FOR THE YEAR 2017 OF THE MML Bay State Life Insurance Company **FXHIBIT 5 - AGGREGATE RESERVE FOR LIFE CONTRACTS**

1	2	3	4	5	6
				Credit (Group and	
Valuation Standard	Total	Industrial	Ordinary	Individual)	Group
0100001. 58 CET 4.00% NLP	592.303			,	
0100002. 58 CS0 4.00% MOD CRVM	47 939		17 000		
0100003. 58 CS0 4.50% CRVM	7 296				
	1,510,000				1.510.000
0100005. 80 CSO 4.00%					
0100006. 80 CSO 4.50% CRVM					
			60,760,233		
0199997. Totals (Gross)	148,995,879		147,480,314		1.515.565
0199998. Reinsurance ceded	22,458,462		22,421,675		36,787
0199999. Life Insurance: Totals (Net)	126,537,417		125,058,639		1.478.778
		20.07		1004	.,
0200002. a-2000 4.25%				XXX	
0200003. a-2000 4.50%		XXX		XXX	
		XXX		XXX	
0200006. a-2012 4.00%		XXX		XXX	
0299997. Totals (Gross)	3,084,985	XXX	3,084,985	XXX	
0299998. Reinsurance ceded		XXX		XXX	
0299999. Annuities: Totals (Net)	3,084,985	XXX	3,084,985	XXX	
0399998. Reinsurance ceded					
0399999. SCWLC: Totals (Net)					
0400001. 59 ADB + 58 CSO 4.50%					
			305		
0499997. Totals (Gross)	1,985		1,985		
0499998. Reinsurance ceded	.,		.,		
0499999. Accidental Death Benefits: Totals (Net)	1.985		1,985		
	a - = = =		8,795		
0500003. 35-39 INTERCO + 58 CSO 3.50%			7,318		
0599997. Totals (Gross)	53.691		53.691		
0599998. Reinsurance ceded	55,091		55,091		
0599999. Disability-Active Lives: Totals (Net)	F0 001		53.691		
	53,691				
0600001. 52 DISAB TABLE BEN 5 3.50%			, ,		
			····· , · · · , · · · ·		
0600004. 52 DISAB TABLE BEN 5 5.50%	2,181,577				
0699997. Totals (Gross)	7,971,984		7,971,984		
0699998. Reinsurance ceded					
0699999. Disability-Disabled Lives: Totals (Net)	7,971,984		7,971,984		
0700001. AG43 Reserve					
0700004. TERM COST RESERVE					
0799997. Totals (Gross)	3,136,137		3,136,137		
0799998. Reinsurance ceded					
0799999. Miscellaneous Reserves: Totals (Net)	3, 136, 137		3, 136, 137		
07333333. MISCEllaneous neselves. Totals (Net)					

# **EXHIBIT 5 - INTERROGATORIES**

		v	,			
1.1	Has the reporting entity ever issued both participating and non-participating contracts?	. Ye	s [	]	NO[X]	
1.2	If not, state which kind is issued.					
2.1	Non-Part icipating Does the reporting entity at present issue both participating and non-participating contracts?		. r		м. г v 1	
2.1	If not, state which kind is issued.	16	is [	1	No [ X ]	
2.2						
3.	Non-Part icipating Does the reporting entity at present issue or have in force contracts that contain non-guaranteed elements?	V.	. г. \			
з.	If so, attach a statement that contains the determination procedures, answers to the interrogatories and an actuarial opinion as described in	re	SLY	1	No [ ]	
	the instructions.					
4.	Has the reporting entity any assessment or stipulated premium contracts in force?	Ye	es [	1	No[X]	
	If so, state:					
	4.1 Amount of insurance?	5				
		\$				
	4.3 Basis of reserve:					
	4.4 Basis of regular assessments:					
	4.5 Basis of special assessments:					
	4.6 Assessments collected during the year					
5.	If the contract loan interest rate guaranteed in any one or more of its currently issued contracts is less than 5%, not in advance, state the contract loan rate guarantees on any such contracts.					
6.	Does the reporting entity hold reserves for any annuity contracts that are less than the reserves that would be held on a standard basis?		es [	]	No [ X ]	
	6.1 If so, state the amount of reserve on such contracts on the basis actually held:					
	6.2 That would have been held (on an exact or approximate basis) using the actual ages of the annuitants; the interest rate(s) used in 6.1; and the same mortality basis used by the reporting entity for the valuation of comparable annuity benefits issued to standard lives. If the reporting entity has no comparable annuity benefits for standard lives to be valued, the mortality basis shall be the table most recently					
	approved by the state of domicile for valuing individual annuity benefits:	Ş				
	Attach statement of methods employed in their valuation.					
7.	Does the reporting entity have any Synthetic GIC contracts or agreements in effect as of December 31 of the current year?	Ye	es [	]	No [ X ]	
	7.1 If yes, state the total dollar amount of assets covered by these contracts or agreements	ß				
	7.2 Specify the basis (fair value, amortized cost, etc.) for determining the amount:					
	7.3 State the amount of reserves established for this business:					
	7.4 Identify where the reserves are reported in the blank:					
8.	Does the reporting entity have any Contingent Deferred Annuity contracts or agreements in effect as of December 31 of the current year?	Ye				
	8.1 If yes, state the total dollar amount of account value covered by these contracts or agreements:					
	8.2 State the amount of reserves established for this business:	\$				
	8.3 Identify where the reserves are reported in the blank:					
9.	Does the reporting entity have any Guaranteed Lifetime Income Benefit contracts, agreements or riders in effect as of December 31 of the		,			
	current year?	_ Ye	is [	1	NO[X]	
	9.1 If yes, state the total dollar amount of any account value associated with these contracts, agreements or noers:					
	9.3 Identify where the reserves are reported in the blank:	,				
	a. The nurse where the reserves are reported in the blank.					

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

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

Exhibit 6 - Aggregate Reserves for Accident and Health Contracts

# ΝΟΝΕ

### **EXHIBIT 7 - DEPOSIT TYPE CONTRACTS**

	1	2 Guaranteed	3	4 Supplemental	5 Dividend Accumulations or Refunds	6 Premium and Other
	Total	Interest Contracts	Annuities Certain	Contracts	Refunds	Deposit Funds
1. Balance at the beginning of the year before reinsurance						
2. Deposits received during the year	3, 168, 603					
3. Investment earnings credited to the account						
4. Other net change in reserves			( 16 , 455 )			
5. Fees and other charges assessed						
6. Surrender charges						
7. Net surrender or withdrawal payments	2,006,099			2,006,099		
8. Other net transfers to or (from) Separate Accounts						
9. Balance at the end of current year before reinsurance (Lines 1+2+3+4-5-6-7-8)						
10. Reinsurance balance at the beginning of the year						
11. Net change in reinsurance assumed						
12. Net change in reinsurance ceded						
13. Reinsurance balance at the end of the year (Lines 10+11-12)						
14. Net balance at the end of current year after reinsurance (Lines 9 + 13)	12,986,104		107,812	12,878,292		

### **EXHIBIT 8 - CLAIMS FOR LIFE AND ACCIDENT AND HEALTH CONTRACTS**

PART 1 - Liability End of Current Year

		1	2		Ordinary		6	Gro	up		Accident and Health	
				3	4	5 Supplementary	Credit Life (Group	7	8	9	10 Credit (Group and	11
		Total	Industrial Life	Life Insurance	Individual Annuities	Contracts	and Individual)	Life Insurance	Annuities	Group	Individual)	Other
<ol> <li>Due and unpaid:</li> </ol>												
	1.1 Direct											
	1.2 Reinsurance assumed											
	1.3 Reinsurance ceded											
	1.4 Net											
2. In course of settlement:												
2.1 Resisted	2.11 Direct											
	2.12 Reinsurance assumed											
	2.13 Reinsurance ceded											
	2.14 Net			(b)	(b)		(b)	(b)				
2.2 Other	2.21 Direct			4,271,960								
	2.22 Reinsurance assumed											
	2.23 Reinsurance ceded	13,925,812		4,119,713								
	2.24 Net	2,747,259		(b)152,248	(b)		(b)	(b)2,595,011		(b)	(b)	(b)
3. Incurred but unreported:												
	3.1 Direct	1, 129, 773		1, 129, 773								
	3.2 Reinsurance assumed											
	3.3 Reinsurance ceded											
	3.4 Net	732,873		(b)732,873	(b)		(b)	(b)		(b)	(b)	(b)
4. TOTALS	4.1 Direct			5,401,733								
	4.2 Reinsurance assumed	· ·		· · ·				· ·				
	4.3 Reinsurance ceded			4,516,613								
	4.4 Net	3,480,132	(a)	(a) 885,121				(a) 2.595.011				

(b) Include only portion of disability and accident and health claim liabilities applicable to assumed "accrued" benefits. Reserves (including reinsurance assumed and net of reinsurance ceded) for unaccrued benefits for Ordinary Life Insurance \$

16

Credit (Group and Individual) Accident and Health \$ ......, and Other Accident and Health \$ are included in Page 3, Line 2 (See Exhibit 6, Claim Reserve).

### **EXHIBIT 8 - CLAIMS FOR LIFE AND ACCIDENT AND HEALTH CONTRACTS**

PART 2 - Incurred During the Year

	1	2		Ordinary		6	Grou	0		Accident and Health	
			3	4	5		7	8	9	10	11
	<b>-</b>	Industrial Life	Life Insurance		Supplementary	Credit Life (Group	Life Insurance		_	Credit (Group	
	Total	(a)	(b)	Individual Annuities	Contracts	and Individual)	(c)	Annuities	Group	and Individual)	Other
1. Settlements During the Year:											
1.1 Direct				1,346,506							
1.2 Reinsurance assumed											
1.3 Reinsurance ceded							6,809,578				
1.4 Net	(d)41,965,399		4,833,026	1,346,506							
<ol> <li>Liability December 31, current year from Part 1:</li> </ol>											
2.1 Direct	17,802,844		5,401,733								
2.2 Reinsurance assumed											
2.3 Reinsurance ceded			4,516,613								
2.4 Net							2,595,011				
<ol> <li>Amounts recoverable from reinsurers December 31, current year</li> </ol>	4.374.621										
4. Liability December 31, prior year:											
4.1 Direct	12.604.891						3.584.089				
4.1 Direct							0,004,000				
4.2 Reinsurance ceded							3.584.089				
4.3 Net											
5. Amounts recoverable from											
reinsurers December 31, prior year	2,911,681		1,104,690				1,806,991				
<ol><li>Incurred Benefits</li></ol>											
6.1 Direct				1,346,506							
6.2 Reinsurance assumed											
6.3 Reinsurance ceded											
6.4 Net	40, 158, 130		1,491,417	1,346,506			37,320,207				

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

### ANNUAL STATEMENT FOR THE YEAR 2017 OF THE MML Bay State Life Insurance Company EXHIBIT OF NON-ADMITTED ASSETS

r	EXHIBIT OF NON-ADMITTE	D 422E12	1 -	-
		1	2	3 Change in Total
		Current Year Total Nonadmitted Assets	Prior Year Total Nonadmitted Assets	Nonadmitted Assets (Col. 2 - Col. 1)
1.	Bonds (Schedule D)	Nonadimited 733613	Nonadimited Assets	
	Stocks (Schedule D):			
<u> </u>	2.1 Preferred stocks			
	2.2 Common stocks			
3.	Mortgage loans on real estate (Schedule B):			
0.	3.1 First liens			
	3.2 Other than first liens			
4.	Real estate (Schedule A):			
ч.	4.1 Properties occupied by the company			
	4.2 Properties held for the production of income			
	4.3 Properties held for sale			
5.	Cash (Schedule E - Part 1), cash equivalents (Schedule E - Part 2) and short-term investments			
5.	(Schedule DA)			
6.	Contract loans			
7.	Derivatives (Schedule DB)			
8.	Other invested assets (Schedule BA)			
9.	Receivables for securities			
10.	Securities lending reinvested collateral assets (Schedule DL)			
11.	Aggregate write-ins for invested assets			
12.	Subtotals, cash and invested assets (Lines 1 to 11)			
13.	Title plants (for Title insurers only)			
14.	Investment income due and accrued			
15.	Premiums and considerations:		,	
10.	15.1 Uncollected premiums and agents' balances in the course of collection	1 226	477	(749)
	15.2 Deferred premiums, agents' balances and installments booked but deferred and not yet due			
	15.3 Accrued retrospective premiums and contracts subject to redetermination			
16	Reinsurance:			
16.				
	16.1 Amounts recoverable from reinsurers			
	16.2 Funds held by or deposited with reinsured companies			
	16.3 Other amounts receivable under reinsurance contracts			
	Amounts receivable relating to uninsured plans			
	Current federal and foreign income tax recoverable and interest thereon			
	Net deferred tax asset			5,061,431
19.	Guaranty funds receivable or on deposit			
20.	Electronic data processing equipment and software			
21.	Furniture and equipment, including health care delivery assets			
22.	Net adjustment in assets and liabilities due to foreign exchange rates			
23.	Receivables from parent, subsidiaries and affiliates			
24.	Health care and other amounts receivable			
25.	Aggregate write-ins for other than invested assets			
26.	Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25)	8 711 /01	13 735 530	5 024 048
07	From Separate Accounts, Segregated Accounts and Protected Cell Accounts			
27.				E 024 049
28.	Total (Lines 26 and 27)	8,711,491	13,735,539	5,024,048
1101	DETAILS OF WRITE-INS			
1101.				
1102.				
1103.				
1198.	Summary of remaining write-ins for Line 11 from overflow page			
1199.	Totals (Lines 1101 thru 1103 plus 1198)(Line 11 above)			
2501.				
2502.				
2503.				
2598.	Summary of remaining write-ins for Line 25 from overflow page			
2599.	Totals (Lines 2501 thru 2503 plus 2598)(Line 25 above)			

TABLE OF CONTENTS
Note 1 – Summary of Significant Accounting Policies and Going Concern
Note 2 – Accounting Changes and Corrections of Errors
Note 3 – Business Combinations and Goodwill
Note 4 – Discontinued Operations
Note 5 – Investments
Note 6 – Joint Ventures, Partnerships and Limited Liability Companies
Note 7 – Investment Income
Note 8 – Derivative Instruments
Note 9 – Income Taxes
Note 10 – Information Concerning Parent, Subsidiaries and Affiliates
Note 11 – Debt
Note 12 – Retirement Plans, Deferred Compensation, Postemployment Benefits and Compensated Absences and Other Postretirement Benefit Plans
Note 13 – Capital and Surplus, Shareholders' Dividend Restrictions and Quasi-Reorganizations
Note 14 – Liabilities, Contingencies and Assessments
Note 15 – Leases
Note 16 – Information About Financial Instruments With Off-Balance Sheet Risk and Financial Instruments With Concentrations of Credit Risk
Note 17 – Sale, Transfer and Servicing of Financial Assets and Extinguishments of Liabilities
Note 18 – Gain or Loss to the Reporting Entity from Uninsured Plans and the Uninsured Portion of Partially Insured Plans
Note 19 – Direct Premium Written/Produced By Managing General Agents/Third Party Administrators
Note 20 – Fair Value Measurements
Note 21 – Other Items
Note 22 – Events Subsequent
Note 23 – Reinsurance
Note 24 – Retrospectively Rated Contracts and Contracts Subject to Redetermination
Note 25 – Change in Incurred Losses and Loss Adjustment Expenses
Note 26 – Intercompany Pooling Arrangements
Note 27 – Structured Settlements
Note 28 – Health Care Receivables
Note 29 – Participating Policies
Note 30 – Premium Deficiency Reserves
Note 31 – Reserves for Life Contracts and Annuity Contracts
Note 32 – Analysis of Annuity Actuarial Reserves and Deposit Type Liabilities by Withdrawal Characteristics
Note 33 – Premium and Annuity Considerations Deferred and Uncollected

Note 34 – Separate Accounts

Note 35 – Loss/Claim Adjustment Expenses

#### Note 1 – Summary of Significant Accounting Policies and Going Concern a. Accounting practices:

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

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

		F/S	F/S			
	SSAP #	Page	Line	_	2017	2016
NET INCOME				_		
(1) State basis (Page 4, Line 35, Columns 1 & 3)	XXX	XXX	XXX	\$	14,821,721	\$ 20,255,139
(2) State prescribed practices that increase/(decrease) NAIC SAP:	N/A	N/A	N/A		-	-
(3) State permitted practices that increase/(decrease) NAIC SAP:	N/A	N/A	N/A		-	-
(4) NAIC SAP (1-2-3=4)	XXX	XXX	XXX	\$	14,821,721	\$ 20,255,139
SURPLUS						
(5) State basis (Page 3, Line 38, Columns 1 & 2)	XXX	XXX	XXX	\$	295,306,367	\$ 288,294,439
(6) State prescribed practices that increase/(decrease) NAIC SAP:	N/A	N/A	N/A		-	-
(7) State permitted practices that increase/(decrease) NAIC SAP:	N/A	N/A	N/A		-	-
(8) NAIC SAP (5-6-7=8)	XXX	XXX	XXX	\$	295,306,367	\$ 288,294,439

### b. Use of estimates in the preparation of the financial statements:

The preparation of financial statements requires management to make estimates and assumptions that impact the reported amounts of assets and liabilities, the disclosure of assets and liabilities as of the date of the statutory financial statements and the reported amounts of revenues and expenses during the reporting periods. The most significant estimates include those used in determining the carrying values of investments including the amount of mortgage loan investment valuation reserves, other-than-temporary impairment(s) (OTTI), the liabilities for policyholders' reserves, the determination of admissible deferred tax assets (DTAs), the liability for taxes and litigation contingencies. Future events including, but not limited to, changes in the level of mortality, morbidity, interest rates, persistency, asset valuations and defaults could cause results to differ from the estimates used in the statutory financial statements. Although some variability is inherent in these estimates, management believes the amounts presented are appropriate.

### c. Accounting policy:

Life insurance premium revenue is generally recognized annually on the anniversary date of the policy. However, premium for flexible products, primarily universal life and variable universal life contracts, is recognized as revenue when received. Annuity premium is recognized as revenue when received. Expenses incurred in connection with acquiring new insurance business, including certain acquisition costs, such as commissions, are charged to current operations as incurred. Policy loans are carried at the outstanding loan balance less amounts unsecured by the cash surrender value of the policy. Unsecured amounts can occur when subsequent charges are incurred on the underlying policy without the receipt of additional premium. Where applicable, the values of invested assets have been adjusted for impairments considered OTTI.

In addition, the Company uses the following accounting policies:

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

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

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

- (3) As of December 31, 2017 and 2016, the Company did not hold any common stocks.
- (4) As of December 31, 2017 and 2016, the Company did not hold any preferred stocks.
- (5) Mortgage loans are valued at the unpaid principal balance of the loan, net of unamortized premium, discount, mortgage origination fees and valuation allowances. Mortgage loans comprised primarily seasoned pools of homogeneous residential mortgage loans substantially backed by Federal Housing Administration (FHA) and Veterans Administration (VA) guarantees.
- (6) For loan-backed and structured securities, such as asset-backed securities (ABS), mortgage-backed securities (MBS), including RMBS and CMBS, and structured securities, including collateralized debt obligations (CDOs), amortization or accretion is revalued quarterly based on the current estimated cash flows, using either the prospective or retrospective adjustment methodologies.

Certain fixed income securities, with the highest ratings from a rating agency follow the retrospective method of accounting. Under the retrospective method, the recalculated effective yield equates the present value of the actual and anticipated cash flows, including new prepayment assumptions, to the original cost of the investment. Prepayment assumptions are based on borrower constraints and economic incentives such as the original term, age and coupon of the loan as affected by the

interest rate environment. The current carrying value is then increased or decreased to the amount that would have resulted had the revised yield been applied since inception, and investment income is correspondingly decreased or increased.

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

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

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

#### Bonds - general

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

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

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

#### Bonds - corporate

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

#### Bonds - loan-backed and structured securities

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

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

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

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

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

### d. Going concern:

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

### Note 2 – Accounting Changes and Corrections of Errors

a. For the year ended December 31, 2017, corrections of prior years' errors were recorded in shareholder's equity, net of tax:

			Increase	e (Decrease) to	:	
		Prior Years' t Income		Current Year Surplus	or	Asset Liability alances
General expenses due or accrued Total	\$ \$	(7,956) (7,956)	\$ \$	(7,956) (7,956)	\$	7,956

For the year ended December 31, 2016, the Company did not record any corrections of prior years' errors.

Certain prior year amounts within these financial statements have been reclassified to conform to the current year presentation.

#### b. Adoption of new accounting standards

In June 2016, the NAIC adopted modifications to SSAP No. 26R, *Bonds, Excluding Loan-backed and Structured Securities*, and SSAP No. 43R, *Loan-backed and Structured Securities*, which were effective January 1, 2017 and should be prospectively applied. These modifications clarified that the amount of prepayment penalties or acceleration fees reported as investment income should equal the total proceeds received less the par value of the investment; and any difference between the carrying value and the par value at the time of disposal will be reported as realized capital gains and losses. These modifications also added specific disclosures related to securities sold, redeemed or otherwise disposed of as a result of a callable feature. These modifications did not have a significant impact on the Company's financial statements.

In June 2016, the NAIC adopted substantive revisions to SSAP No. 51R, *Life Contracts*, to incorporate references to the Valuation Manual (VM) and to facilitate the implementation of principles-based reserving (PBR), which were effective on January 1, 2017. The adoption of PBR only applies to new life insurance policies issued after January 1, 2017, however the Company plans to adopt these revisions to SSAP No. 51 using the 3-year phased in approach by no later than January 1, 2020. The Company currently uses formulas and assumptions to determine reserves as prescribed by state laws and regulations. Under PBR, the Company will be required to hold the higher of (a) the reserve using prescribed factors and (b) the PBR reserve which considers a wide range of future economic conditions, computed using justified company experience factors, such as mortality, policyholder behavior and expenses. The Company is currently assessing the impact of these modifications on the Company's financial statements.

In August 2016, the NAIC adopted modifications to SSAP No. 51R, *Life Contracts*, which were effective January 1, 2017. These modifications clarified that annual assumption changes from reserving methods used in PBR would not qualify as a change in valuation basis. Changes in valuation basis are recorded directly to surplus instead of through income. These modifications were made to accommodate PBR which became effective January 1, 2017. These modifications are not expected to have an impact on the Company's financial statements.

In April 2017, the NAIC adopted modifications to SSAP No. 26R, *Bonds*, which is effective December 31, 2017. These modifications are part of an ongoing investment classification project. These modifications (a) provide a definition of a security, (b) update the description of bonds included in scope of the guidance, (c) require fair value accounting for certain Securities Valuation Office (SVO) identified investments, such as bond exchange traded funds, unless a systematic value has been elected, and (d) clarify the scope of the standard to specifically include bank loans acquired through organization, participation, syndication or assignment. The adoption of these modifications did not have an impact on the Company's financial statements in 2017.

In June 2017, the NAIC adopted modifications to SSAP No. 30, *Unaffiliated Common Stock*, SSAP No. 48, *Joint Ventures*, *Partnerships and Limited Liability Companies*, and SSAP No. 97, *Investments in Subsidiary, Controlled and Affiliated Entities* as they relate to ASU 2016-07, *Simplifying the Transition to the Equity Method of Accounting* which were effective January 1, 2017. These modifications included the definition of control and provided guidance as to when an investment qualified (or no longer qualifies) for the equity method of accounting. These modifications further specified that when the level of investment in a subsidiary, controlled or affiliated (SCA) entity fell below the level of control, defined as the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of the investee in SSAP No. 97, the reporting entity should discontinue the use of the equity method of accounting. When an entity becomes qualified to use the equity method of accounting, the entity should add the cost of acquiring the additional interest in the investee to the current basis of the previously held interest and apply the equity method of accounting, prospectively. The Company has adopted these modifications.

#### Note 3 – Business Combinations and Goodwill

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

#### Note 4 – Discontinued Operations

The Company did not have any discontinued operations.

#### Note 5 – Investments a. Mortgage loans:

- (1) During 2017 and 2016, the Company did not purchase residential mortgage loans.
- (2) During 2017 and 2016, the Company did not own any commercial mortgage loans or mezzanine real estate loans.
- (3) As of December 31, 2017 and 2016, the Company did not have any taxes, assessments and amounts advanced and not included in the mortgage loan total.

(4) Age analysis of mortgage loans and identification of mortgage loans in which the insurer is a participant or co-lender in a mortgage loan agreement:

Ū				Residentia	al	Comm	nercial		
		Farr	m	Insured	All Other	Insured	All Other	Mezzanine	Total
201	17								
1.	Recorded investment (all)								
	(a) Current	\$	- \$	3,023,708 \$	164,138 \$	- \$	-	\$-\$	3,187,84
	(b) 30-59 days past due		-	-	-	-	-	-	
	(c) 60-89 days past due		-	-	-	-	-	-	
	(d) 90-179 days past due		-	-	-	-	-	-	
	(e) 180+ days past due		-	-	-	-	-	-	
2.	Accruing interest 90-179								
	days past due								
	(a) Recorded investment	\$	- \$	- \$	- \$	- \$	-	\$-\$	
	(b) Interest accrued		-	-	-	-	-	-	
3.	Accruing interest 180+								
	days past due								
	(a) Recorded investment	\$	- \$	- \$	- \$	- \$	-	\$-\$	
	(b) Interest accrued		-	-	-	-	-	-	
4.	Interest reduced								
	(a) Recorded investment	\$	- \$	- \$	- \$	- \$	-	\$-\$	
	(b) Number of loans		-	-	-	-	-	-	
	(c) Percent reduced		-	-	-	-	-	-	
5.	Participant or co-lender in a								
	mortgage loan agreement								
	(a) Recorded investment	\$	- \$	- \$	- \$	- \$	-	\$-\$	
201	16								
1.	Recorded investment (all)								
	(a) Current	\$	- \$	3,828,103 \$	178,985 \$	- \$	-	\$-\$	4,007,08
	(b) 30-59 days past due		-	-	-	-	-	-	
	(c) 60-89 days past due		-	-	-	-	-	-	
	(d) 90-179 days past due		-	-	-	-	-	-	
	(e) 180+ days past due		-	-	-	-	-	-	
2.	Accruing interest 90-179								
	days past due								
	(a) Recorded investment	\$	- \$	- \$	- \$	- \$	-	\$-\$	
	(b) Interest accrued		-	-	-	-	-	-	
3.	Accruing interest 180+								
	days past due								
	(a) Recorded investment	\$	- \$	- \$	- \$	- \$	-	\$-\$	
	(b) Interest accrued		-	-	-	-	-	-	
4.	Interest reduced								
	(a) Recorded investment	\$	- \$	- \$	- \$	- \$	-	\$-\$	
	(b) Number of loans		-	-	-	-	-	-	
	(c) Percent reduced		-	-	-	-	-	-	
5.									
	mortgage loan agreement								
	(a) Recorded investment	\$	- \$	- \$	- \$	- \$	-	\$-\$	
		Ψ	-ψ	Ψ	-ψ	- Ψ	-	φ -ψ	

- (5) As of December 31, 2017 and 2016, the Company did not have any impaired mortgage loans with or without allowance for credit losses and subject to a participant or co-lender mortgage loan agreement for which the Company is restricted from unilaterally foreclosing on the mortgage loan.
- (6) As of December 31, 2017 and 2016, the Company did not have any impaired mortgage loans.
- (7) As of and for the year ended December 31, 2017 and 2016, the Company did not have any mortgage loans with allowance for credit losses nor any changes in the allowance for credit losses.
- (8) As of December 31, 2017, the Company did not have any mortgage loans derecognized as a result of foreclosure.
- (9) Interest income earned on impaired loans is accrued on the outstanding principal balance of the loan based on the loan's contractual coupon rate. Interest is not accrued for (a) impaired loans more than 60 days past due, (b) delinquent loans more than 90 days past due, or (c) loans that have interest that is not expected to be collected. The Company continually monitors mortgage loans where the accrual of interest has been discontinued, and will resume the accrual of interest on a mortgage loan when the facts and circumstances of the borrower and property indicate that the payments will continue to be received according to the terms of the original or modified mortgage loan agreement.

b. Debt restructuring:

As of December 31, 2017 and 2016, the Company did not have any restructured debt.

c. Reverse mortgages:

As of December 31, 2017 and 2016, the Company did not have any reverse mortgages.

#### d. Loan-backed and structured securities:

- (1) Prepayment assumptions for loan-backed and structured securities are based on various assumptions and inputs obtained from external industry sources along with internal analysis and actual experience.
- (2) The following contains loan-backed and structured securities that recognized OTTI classified on the following bases for recognizing OTTI:

		_							(*)
			(1)			(2)			(3)
			A (1) I		_	OTTI			
			Amortized			cogni			
		ł	Cost Basis			n Los			
			Before		(2a)	``	b)		Fair Value
			OTTI	Ir	iterest	No	n-interest		1-(2a+2b)
ОТТ	Flaggerized in the first questor								
a.	I recognized in the first quarter Intent to sell	\$		\$		¢		¢	
a. b.	Inability or lack of intent to retain the investment	φ	-	φ	-	φ	-	φ	-
υ.	in the security for a period of time sufficient to								
	recover the amortized cost basis		94,424		_		41,274		53,150
C.	Total first quarter	\$	94,424	\$		\$	41,274	\$	53,150
0.		¥	01,121	Ψ		Ψ	71,217	Ψ	00,100
ОТТ	Γl recognized in the second quarter								
d.	Intent to sell	\$	-	\$	-	\$	-	\$	-
e.	Inability or lack of intent to retain the investment			•					
	in the security for a period of time sufficient to								
	recover the amortized cost basis		342		-		76		266
f.	Total second quarter	\$	342	\$	-	\$	76	\$	266
		_	-						
OTT	Γl recognized in the third quarter								
g.	Intent to sell	\$	-	\$	-	\$	-	\$	-
h.	Inability or lack of intent to retain the investment								
	in the security for a period of time sufficient to								
	recover the amortized cost basis		-		-		-		-
i.	Total third quarter	\$	-	\$	-	\$	-	\$	-
	Γl recognized in the fourth quarter								
j.	Intent to sell	\$	-	\$	-	\$	-	\$	-
k.	Inability or lack of intent to retain the investment								
	in the security for a period of time sufficient to								
	recover the amortized cost basis	_	-	-	-	-	-	_	-
I.	Total fourth quarter	\$	-	\$	-	\$	-	\$	-
				-					
m.	Annual aggregate total			\$	-	\$	41,350		

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

(3) The following is a CUSIP detail list of impaired structured securities where the present value of cash flows expected to be collected is less than the amortized cost basis.

CUSIP	Amortized Cost before OTTI	Projected Cash Flow	Recognized OTTI	A	Amortized Cost after OTTI	Fair Value at Time of OTTI	Date of Financial Instrument Where Reported
22541QJR4	\$ 7,034.17	\$ 33.78	\$ (7,000.39)	\$	33.78	\$ 4,334.02	March 31, 2017
86358RA23	87,389.56	53,115.66	(34,273.90)		53,115.66	84,944.86	March 31, 2017
86358RLG0	342.38	266.85	(75.53)		266.85	2,967.48	June 30, 2017
Totals	\$ 94,766.11	\$ 53,416.29	\$ (41,349.82)	\$	53,416.29	\$ 92,246.36	

(4) As of December 31, 2017, the gross unrealized losses and fair values for investments in structured and loan-backed securities for which an OTTI has not been recognized in earnings follow:

	-	5	5		
a.	The aggregate amount of un	realized losses:			
	1. Less than 12 months			\$	(458,052)
	2. 12 months or longer			\$	(966,589)
b.	The aggregate related fair va	alue of securities	with unrealized loss	es:	
	1. Less than 12 months			\$	36,422,730

\$ 36,422,730 \$ 28,107,414

(5) No additional information.

2. 12 months or longer

e. Repurchase Agreements Transactions Accounted for as Secured Borrowing:

(1) The Company did not have any repurchase agreements for the years ended December 31, 2017 or 2016.

f. Real estate:

g.

(1) The Company did not have any investments in real estate for the years ended December 31, 2017 and 2016.

Low income housing tax credit properties:

(1) The Company did not have any these properties for the years ended December 31, 2017 or 2016.

### h. Restricted assets:

(1) Restricted assets (including pledged):

K. On deposit with other         regulatory bodies         regulatory bodies         Pledged collateral to FHLB         (including assets backing         funding agreements)         m. Pledged as collateral not         captured in other categories         n. Other restricted assets					Gross (Admit	ted & Nonadmitte	ed) Restricted		
Restricted Asat Category         Total General Account (S/A)         Total Separate Account (S/A) SIA Activity (a)         Total Separate Account (S/A) Restricted Assets         S/A Assets Supporting G/A Activity (b)         Total from (1 plus 3)         Total from Prior Year           0         Subject to contractual liability is not above security lending agreements         \$					6	7			
Restricted Asset Calegory         Total General Account (G/A)         G/A Supporting SIA Activity (a)         Account (S/A) Restricted Assets         Supporting G/A Activity (b)         Total (nm (1 plus 3)         Total fom (1 plus 4)         Total			1	2	2 3		5		
bilgator for which liability is not shown       S </td <td></td> <td>Restricted Asset Category</td> <td></td> <td></td> <td>Account (S/A)</td> <td>Supporting G/A</td> <td></td> <td></td> <td>(Decrease)</td>		Restricted Asset Category			Account (S/A)	Supporting G/A			(Decrease)
No. Collisional hard under security feeding aggreements       S	a.								
D.       Collateral held under security lending agreements       -       -       -       -         c.       Subject to repurchase agreements       -       -       -       -       -         d.       Subject to reverse repurchase agreements       -       -       -       -       -         g.       Subject to dollar repurchase agreements       -       -       -       -       -       -         g.       Subject to dollar reverse repurchase agreements       - <t< td=""><td></td><td></td><td>¢</td><td>¢</td><td>¢</td><td>¢</td><td>¢</td><td>¢</td><td>¢</td></t<>			¢	¢	¢	¢	¢	¢	¢
security lending agreements       -       -       -       -       -         p:       Subject to reverse       -       -       -       -       -         repurchase agreements       -       -       -       -       -       -         0:       Subject to dollar       -       -       -       -       -       -         1:       Subject to dollar reverse       -       <	b.	-	- -	φ -	φ -	φ -	φ -	Ψ -	φ -
subject to repurchase agreements         -         <	<i></i>		-	-	-	-	-	-	-
agreements         -	_								
d.       Subject to reverse repurchase agreements       - </td <td>с.</td> <td></td> <td>_</td> <td></td> <td></td> <td></td> <td>_</td> <td>-</td> <td>_</td>	с.		_				_	-	_
repurchase agreements       -	d								
e.       Subject to dollar repurchase agreements       - <td>u.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	u.								
repurchase agreements       -	_			-	-	-	-	-	_
Subject to dollar reverse repurchase agreements       -       -       -       -         g.       Placed under option contracts       -       -       -       -         h.       Letter stock or securities restricted as to sale - excluding FHLB capital stock       -       -       -       -         r.       FHLB capital stock       -       -       -       -       -         v.       On deposit with states       4,466,341       -       -       -       -         k.       On deposit with other regulatory bodies       -	e.								
repurchase agreements         -	_		-	-	-	-	-	-	-
g.       Placed under option         contracts       -         n.       Letter stock or securities         restricted as to sale -       -         excluding FHLB capital stock       -         i.       FHLB capital stock         j.       FHLB capital stock         j.       On deposit with states         4,466,341       -         (including assets backing       -         (including assets backing       -         funding agreements)       -         m.       Pledged as collateral not         capture in other categories       -         n.       Other restricted assets         other categories       -         n.       Other restricted assets	t.								
contracts       -			-	-	-	-	-	-	-
h. Letter stock or securities   restricted as to sale -   excluding FHLB capital stock   i.   FHLB capital stock   i.   PHLB capital stock   i.   On deposit with states   4,466,341   4,466,341   4,466,341   4,466,341   i.   Pledged collateral not   captured in other categories   n.   Pledged as collateral not   captured in other categories   i.   N.   Other restricted assets   i.   Determine the information of the categories   i.   i.   i.   Other restricted assets   i.   i.   Other restricted assets   i.   i. <td>g.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	g.								
restricted as to sale - excluding FHLB capital stock . FHLB capital stock . On deposit with states 4,466,341 4,265,185 201,15 k. On deposit with other regulatory bodies . Pledged collateral to FHLB (including assets backing funding agreements) m. Pledged as collateral not captured in other categories . Other restricted assets . Other restricted asset . Oth			-	-	-	-	-	-	-
excluding FHLB capital stock       - <td< td=""><td>h.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	h.								
i.       FHLB capital stock       -									
Image: Construction of the states       4,466,341       4,466,341       4,265,185       201,15         K. On deposit with other       regulatory bodies       -       -       4,466,341       4,265,185       201,15         K. On deposit with other       regulatory bodies       - <t< td=""><td></td><td></td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></t<>			-	-	-	-	-	-	-
k. On deposit with other         regulatory bodies         regulatory bodies         . Pledged collateral to FHLB         (including assets backing         funding agreements)         m. Pledged as collateral not         captured in other categories         n. Other restricted assets	i.	FHLB capital stock	-	-	-	-	-	-	-
regulatory bodies       -	j.	On deposit with states	4,466,341	-	-	-	4,466,341	4,265,185	201,156
I.       Pledged collateral to FHLB         (including assets backing         funding agreements)         m.       Pledged as collateral not         captured in other categories         n.       Other restricted assets	k.	On deposit with other							
(including assets backing       -<		regulatory bodies	-	-	-	-	-	-	-
funding agreements)       -	l.	Pledged collateral to FHLB							
m.     Pledged as collateral not       captured in other categories     -       n.     Other restricted assets	1	(including assets backing							
captured in other categories     -     -     -     -       n. Other restricted assets     -     -     -     -	1	funding agreements)	-	-	-	-	-	-	-
n. Other restricted assets	m.	Pledged as collateral not							
	1	captured in other categories	-	-	-	-	-	-	-
	n.	Other restricted assets	-	-	-	-	-	-	-
	0.	Total restricted assets	\$ 4,466,341	\$ -	\$-	\$-	\$ 4,466,341	\$ 4,265,185	\$ 201,156

(a) Subset of column 1

(b) Subset of column 3

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

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

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

		Gross	8	Perce	ntage					
		С	urrent Yea	ar		6	7			
	1	2	3	4	5				9	10
			Total Separate Account						Gross (Admitted &	Admitted Restricted Total
	Total General	G/A	(S/A)	S/A Assets Supporting G/A	Total	Total from	Increase/	Total Current Year Admitted	,	Total Admitted
Description of Assets	Account (G/A)	S/A Activity	Restricted Assets	G/A Activity (b)	(1 plus 3)	Prior Year	(Decrease) (5 minus 6)	Restricted	Total Assets	Assets
	\$ -	\$-	\$-	\$ -	\$ -	\$-	\$ -	\$-	-	-
	_	_	-	_	-	_	-	_	_	-
Total (c)	\$-	\$-	\$ -	\$-	\$-	\$-	\$ -	\$-	-	-

#### (a)Subset of column 1

(b)Subset of column 3

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

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

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

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

		Gross	(Admitted	& Nonad	mitted) Res	stricted		8	Perce	ntage
		С	urrent Yea	ar		6	7			
	1	2	3	4	5				9	10
			Total Separate						Gross (Admitted &	Admitted Restricted Total
		G/A	Account (S/A)	S/A Assets Supporting			Increase/	Total Current Year	Nonadmitted)	Total
	Total General Account		Restricted	G/A	Total	Total from	(Decrease)	Admitted	Restricted to	Admitted
Description of Assets	(G/A)	(a)	Assets	Activity (b)	(1 plus 3)	Prior Year	(5 minus 6)	Restricted	Total Assets	Assets
	\$ -	\$-	\$-	\$-	\$ -	\$-	\$-	\$-	-	-
	-	-	-	-	-	-	-	-	-	-
*Total(c)	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	-	-

(a) Subset of column 1

(b) Subset of column 3

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

(d) Column 5 divided by Asset Page, Column 1, Line 28(e) Column 9 divided by Asset Page, Column 3, Line 28

- i. Working capital finance investments: The Company did not invest in working capital finance investments.
- j. Offsetting and netting of assets and liabilities The Company does not currently hold derivatives, repurchase agreements, reverse repurchase agreements or securities lending assets and liabilities.
- k. Structured notes:

A structured note is a direct debt issuance by a corporation, municipality, or government entity, ranking pari-passu with the issuer's other debt issuance of equal seniority where either: (a) the coupon and/or principal payments are linked, in whole or in part, to prices or payment streams from index or indices, or assets deriving their value from other than the issuer's credit quality, or (b) the coupon and/or principal payments are leveraged by a formula that is different from either a fixed coupon, or a non-leveraged floating rate coupon linked to an interest rate index, including but not limited to the London Interbank Offered Rate (LIBOR) or the prime rate. As structured notes are issuer obligations without a trust, they are within the scope of SSAP No. 26, "Bonds, Excluding Loan-backed and Structured Securities" (SSAP No. 26). Structured notes are different than the asset backed structured securities, which are accounted for under SSAP No. 43R, "Revised - Loan-Backed and Structured Securities" (SSAP No. 43R, "Revised - Loan-Backed and Structured Securities" (SSAP No. 43R), as they lack either a trust or assets backing them. The disclosure below allows regulators to assess the volume of activity in structured notes and to determine whether additional accounting or reporting revisions, such as valuation and risk-based capital, are needed. To satisfy this request, the Company is required to separately identify structured notes, on a CUSIP basis and provide information by CUSIP for actual cost, fair value, book/adjusted carrying value, and whether the structured note is a mortgage-referenced security. The following sets forth the actual cost, fair value and carrying value of structured notes as of December 31, 2017:

CUSIP			Book / Adjusted	Mortgage- Referenced Security
Identification	Actual Cost	Fair Value	Carrying Value	(YES/NO)
391164AF7	\$ 526,870	\$ 516,376	\$ 512,467	NO
Total	\$ 526,870	\$ 516,376	\$ 512,467	XXX

### I. 5\* Securities - No change

### Note 6 – Joint Ventures, Partnerships and Limited Liability Companies

- a. The Company did not have any individual investment in joint ventures, partnerships or LLCs exceeding 10% of admitted assets for the years ended December 31, 2017 and 2016.
- b. The Company did not have any investment in joint ventures, partnerships and LLCs, therefore, no impairment write-downs were recognized for the years ended December 31, 2017 or 2016.

### Note 7 – Investment Income

- a. Accrued investment income consists primarily of interest and dividends. Interest is recognized on an accrual basis and dividends are recorded as earned on the ex-dividend date.
- b. The total amount of due and accrued investment income excluded from surplus was \$ 38,394 for the year ended December 31, 2017 and \$1,760 for the year ended December 31, 2016.

### Note 8 – Derivative Instruments

The company did not have any derivative instruments for the years ended December 31, 2017 or 2016.

- Note 9 Income Taxes A. The Company provides for deferred income taxes based on an admissibility limitation of 15% of surplus and a three year reversal/realization period.
  - 1. The net DTA or net deferred tax liability (DTL) recognized in the Company's assets, liabilities and surplus is as follows:

				Dece	mber 31, 2017	
			Ordinary		Capital	Total
(a)	Gross DTAs	\$	12,120,980	\$	16,075	\$ 12,137,055
(b)	Statutory valuation allowance adjustment	_	-		- 16.075	- 12,137,055
(c) (d)	Adjusted gross DTAs DTAs nonadmitted		12,120,980 8,671,871		16,075	
(d) (e)	Subtotal net admitted DTA		3,449,109		- 16,075	 8,671,871 3,465,184
(e) (f)	Total gross DTLs		657,608		1,162,801	1,820,409
(1)			007,000		1,102,001	1,020,403
(g)	Net admitted DTA(L)	\$	2,791,501	\$	(1,146,726)	\$ 1,644,775
				Dece	mber 31, 2016	
		_	Ordinary	2000	Capital	 Total
(a)	Gross DTAs	\$	21,397,576	\$	10,350	\$ 21,407,926
(b)	Statutory valuation allowance adjustment		-		-	-
(c)	Adjusted gross DTAs		21,397,576		10,350	21,407,926
(d)	DTAs nonadmitted		13,733,302		-	13,733,302
(e)	Subtotal net admitted DTA	_	7,664,274		10,350	7,674,624
(f)	Total gross DTLs		415,398		1,074,624	1,490,022
(g)	Net admitted DTA(L)	\$	7,248,876	\$	(1,064,274)	\$ 6,184,602
					Change	
			Ordinary		Change Capital	Total
			Orunary		Capital	 TOTAL
(a)	Gross DTAs	\$	(9,276,596)	\$	5,725	\$ (9,270,871)
(b)	Statutory valuation allowance adjustment		-		-	-
(c)	Adjusted gross DTAs		(9,276,596)		5,725	(9,270,871)
(d)	DTAs nonadmitted		(5,061,431)		-	(5,061,431 <u>)</u>
(e)	Subtotal net admitted DTA		(4,215,165)		5,725	(4,209,440)
(f)	Total gross DTLs		242,210		88,177	330,387
(g)	Net admitted DTA(L)	\$	(4,457,375)	\$	(82,452)	\$ (4,539,827)

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

				Decem	ber 31, 2017	
			Ordinary		Capital	Total
(a) (b)	Federal income taxes paid in prior years recoverable through loss carrybacks Adjusted gross DTAs expected to be realized (excluding the amount of DTAs	\$	-	\$	7,228	\$ 7,228
	from 2(a) above) after application of the threshold limitation (the lesser of 2(b)1 and 2(b)2 below)		1,637,547		-	1,637,547
	<ol> <li>Adjusted gross DTAs expected to be realized following the balance sheet date</li> </ol>		1,637,547		-	1,637,547
(c)	<ol> <li>Adjusted gross DTAs allowed per limitation threshold</li> <li>Adjusted gross DTAs (excluding the</li> </ol>		42,648,658		-	42,648,658
(d)	amount of DTAs from 2(a) and 2(b) above) offset by gross DTLs DTAs admitted as the result of application		1,811,562		8,847	1,820,409
(u)	of SSAP no. 101 Total (2(a) + 2(b) + 2(c))	\$	3,449,109	\$	16,075	\$ 3,465,184
				_		
			Ordinany		ber 31, 2016 Capital	Total
(a) (b)	Federal income taxes paid in prior years recoverable through loss carrybacks Adjusted gross DTAs expected to be	\$	Ordinary 6,174,252	\$	10,350	\$ 6,184,602
(0)	realized (excluding the amount of DTAs from 2(a) above) after application of the threshold limitation (the lesser of 2(b)1 and 2(b)2 below)				_	_
	<ol> <li>Adjusted gross DTAs expected to be realized following the balance sheet date</li> </ol>		_		_	-
(c)	<ol> <li>Adjusted gross DTAs allowed per limitation threshold</li> <li>Adjusted gross DTAs (excluding the</li> </ol>		35,965,381		-	35,965,381
	amount of DTAs from 2(a) and 2(b) above) offset by gross DTLs		1,490,022		-	1,490,022
(d)	DTAs admitted as the result of application of SSAP no. 101 Total $(2(a) + 2(b) + 2(c))$	\$	7,664,274	\$	10,350	\$ 7,674,624
		_				 
			Ondina		Change	Tatal
(a)	Federal income taxes paid in prior years		Ordinary		Capital	 Total
(b)	recoverable through loss carrybacks Adjusted gross DTAs expected to be realized (excluding the amount of DTAs from 2(a) above) after application of the threshold limitation (the lesser of 2(b)1	\$	(6,174,252)	\$	(3,122)	\$ (6,177,374)
	<ul> <li>and 2(b)2 below)</li> <li>Adjusted gross DTAs expected to be</li> </ul>		1,637,547		-	1,637,547
	realized following the balance sheet date		1,637,547		-	1,637,547
(c)	limitation threshold Adjusted gross DTAs (excluding the		6,683,277		-	6,683,277
(d)	amount of DTAs from 2(a) and 2(b) above) offset by gross DTLs		321,540		8,847	 330,387
. 7	DTAs admitted as the result of application of SSAP no. 101 Total $(2(a) + 2(b) + 2(c))$	\$	(4,215,165)	\$	5,725	\$ (4,209,440)

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

		Years Ended December 31,				
			2017		2016	
(a) (b)	Ratio percentage used to determine recovery period and threshold limitation amount Amount of adjusted capital and surplus used to determine recovery period and threshold limitation in 2(b)2 above.	\$	11,571% 284,324,390	\$	11,734% 239,769,205	

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

			Decemb	ber 31	, 2017
			Ordinary		Capital
(a)	Determination of adjusted gross DTAs and net admitted DTAs, by tax character as a percentage.	ł			
	<ol> <li>Adjusted Gross DTAs amount from Note 9A1(c)</li> </ol>	\$	12,120,980	\$	16,075
	<ol> <li>Percentage of adjusted gross DTAs by tax character attributable to the impact of tax planning strategies</li> </ol>		-%		-%
	3. Net admitted DTAs amount from Note 9A1(g)	e \$	2,791,501	\$	(1,146,726)
	<ol> <li>Percentage of net admitted DTAs by tax character attributable to the impact of tax planning strategies</li> </ol>		22%		-%
			Decemb	ber 31	, 2016
			Ordinary		Capital
(a)	Determination of adjusted gross DTAs and net admitted DTAs, by tax character as a percentage.	1			
	<ol> <li>Adjusted Gross DTAs amount from Note 9A1(c)</li> </ol>	\$	21,397,576	\$	10,350
	<ol> <li>Percentage of adjusted gross DTAs by tax character attributable to the impact of tax planning strategies</li> </ol>		-%		-%
	<ol> <li>Net admitted DTAs amount from Note 9A1(g)</li> </ol>	ə \$	7,248,876	\$	(1,064,274)
	<ol> <li>Percentage of net admitted DTAs by tax character attributable to the impact of tax planning strategies</li> </ol>		-%		-%
			C	hange	<b>_</b>
			Ordinary	nanye	- Capital
(a)	Determination of adjusted gross DTAs and net admitted DTAs, by tax character as a percentage.	1	Cramary		
	<ol> <li>Adjusted Gross DTAs amount from Note 9A1(c)</li> </ol>	\$	(9,276,596)	\$	5,725
	<ol> <li>Percentage of adjusted gross DTAs by tax character attributable to the impact of tax planning strategies</li> </ol>		-%		-%
	<ol> <li>Net admitted DTAs amount from Note 9A1(g)</li> </ol>	e \$	(4,457,375)	\$	(82,452)
	4. Percentage of net admitted DTAs by tax character attributable to the impact of tax planning strategies		22%		-%
(b)	Does the Company's tax planning strategies include the use of reinsurance?		Yes_		No <u>X</u>
0					

B. The Company does not have any deferred tax liabilities not recognized.

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

1.

		Yea 2017	ırs Ei	nded Decembo 2016	er 31	, Change
		 2011		2010		onango
(a) (b)	Federal	\$ (2,569,559)	\$	25,634,294	\$	(28,203,853)
(b) (c)	Foreign Subtotal	 - (2,569,559)		- 25,634,294	_	- (28,203,853)
(d)	Federal income tax on net capital gains	(2,509,559) (1,017)		25,034,294 100,797		(20,203,853) (101,814)
(e)	Utilization of capital loss carry-forwards	-		-		-
(f)	Other	 -		-		-
(g)	Federal and foreign income taxes incurred	\$ (2,570,576)	\$	25,735,091	\$	6 (28,305,667)

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

2.	Def	erred Tax Assets:	2017	December 31, 2016	Change
	(a)	Ordinary			
	(u)		¢	¢	¢
		<ul><li>(1) Discounting of unpaid losses</li><li>(2) Unearned premium reserve</li></ul>	\$-	\$-	\$-
		<ul><li>(3) Policyholder reserves</li><li>(4) Investments</li></ul>	1,256,309	1,365,845	(109,536)
		<ul><li>(4) Investments</li><li>(5) Deferred acquisition costs</li></ul>	- 4,026,287	- 7,557,217	- (3,530,930)
		<ul><li>(6) Policyholder dividends accrual</li><li>(7) Fixed assets</li></ul>	-	-	-
		(8) Compensation and benefits accrual	-	-	-
		<ul><li>(9) Pension accrual</li><li>(10) Receivables - nonadmitted</li></ul>	-	-	-
		(11) Net operating loss carry-forward	-	-	-
		<ul><li>(12) Tax credit carry-forward</li><li>(13) Other</li></ul>	- 6,838,384	- 12,474,514	- (5,636,130)
		(14) Subtotal	12,120,980	21,397,576	(9,276,596)
	(h)	Statuton valuation allowance adjustment			
	(b) (c)	Statutory valuation allowance adjustment Nonadmitted	- 8,671,871	- 13,733,302	- (5,061,431)
	( ))				(4.045.405)
	(d)	Admitted ordinary DTAs (2a14 - 2b - 2c)	3,449,109	7,664,274	(4,215,165)
	(e)	Capital	40.075	40.050	
		<ul><li>(1) Investments</li><li>(2) Net capital loss carry-forward</li></ul>	16,075 -	10,350 -	5,725
		(3) Real estate	-	-	-
		(4) Other (5) Subtotal	- 16,075	- 10,350	- 5,725
	(5)				
	(f) (g)	Statutory valuation allowance adjustment Nonadmitted			
	(h)	Admitted capital DTAs (2e5 - 2f - 2g)	16,075	10,350	5,725
	(i)	Admitted DTAs (2d + 2h)	3,465,184	7,674,624	(4,209,440)
0			0,100,101	,011,021	(1,200,110)
3.	Dete	erred Tax Liabilities:			
	(a)	Ordinary			
		(1) Investments	-	-	-
		<ul><li>(2) Fixed Assets</li><li>(3) Deferred and uncollected premium</li></ul>	- 245,260	- 409,764	- (164,504)
		(4) Policyholder reserves	410,550	-	410,550
		(5) Other (6) Subtotal	<u> </u>	<u>5,634</u> 415,398	<u>(3,836)</u> 242,210
	(1)				
	(b)	Capital			
		(1) Investments	1,162,801	1,074,624	88,177
		<ul><li>(2) Real estate</li><li>(3) Other</li></ul>	-	-	-
		(4) Subtotal	1,162,801	1,074,624	88,177
	(c)	Total DTLs (3a6 + 3b4)	1,820,409	1,490,022	330,387
			<b>.</b>	<b>_</b>	
4.	Net	DTA(L) (2i - 3c)	<u>\$ 1,644,775</u>	\$ 6,184,602	\$ (4,539,827)

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

	Years Ended I 2017		December 31, 2016
(1) Net DTA(L)	\$	(9,601,259)	\$ 12,323,353
<ul> <li>Less: Items not recorded in the change in net deferred income taxes:</li> <li>(2) Tax-effect of unrealized gains/(losses)</li> <li>(3) Tax-effect of change in accounting method for</li> </ul>		- (5,724)	- (10,350)
pensions		-	-
(4) Change in net deferred income taxes	\$	(9,606,983)	\$ 12,313,003

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

	Years Ended	Dece	mber 31,
	 2017		2016
<ol> <li>Provision computed at statutory rate</li> <li>Nonadmitted assets</li> <li>Foreign governmental income taxes</li> <li>Expense items</li> <li>Investment items</li> <li>Tax credits</li> <li>Change in reserve valuation basis</li> <li>Corporate rate reduction</li> <li>Other</li> </ol>	\$ 4,270,855 (13,084) - 27 (4,232,745) - - 6,867,047	\$	16,135,800 (783) - 43 (2,202,223) - - -
(9) Other	 144,307		(510,749 <u>)</u>
Total statutory income tax expense (benefit)	\$ 7,036,407	\$	13,422,088
<ul><li>(10) Federal and foreign income tax benefit</li><li>(11) Change in net deferred income taxes</li></ul>	\$ (2,570,576) 9,606,983	\$	25,735,091 (12,313,003)
Total statutory income tax expense (benefit)	\$ 7,036,407	\$	13,422,088

- E. (1) As of December 31, 2017, the Company had no net operating or capital loss carryforwards to include in deferred income taxes. The Company has no total tax credit carryforwards included in deferred taxes.
  - (2) The Company paid federal income taxes of \$18,995,860 in 2017 and \$3,948,825 in 2016.
  - (3) As of December 31, 2017 and 2016, the Company had no protective deposits recognized as admitted assets.
- F. (1) The Company is included in a consolidated United States (U.S.) federal income tax return with its parent, Massachusetts Mutual Life Insurance Company (MassMutual), a mutual life insurance company domiciled in the Commonwealth of Massachusetts, and MassMutual's eligible U.S. subsidiaries. The Company also files income tax returns in various states and foreign jurisdictions.
  - (2) The Company, MassMutual, and MassMutual's eligible subsidiaries and certain affiliates (the Parties) have executed and are subject to a written tax allocation agreement (the Agreement). The Agreement sets forth the manner in which the total combined federal income tax is allocated among the Parties. The Agreement provides the Company with the enforceable right to recoup federal income taxes paid in prior years in the event of future net losses, which it may incur. Further, the Agreement provides the Company with the enforceable right to utilize its net losses carried forward as an offset to future net income subject to federal income taxes.
- G. (1) Companies are generally required to disclose unrecognized tax benefits, which are the tax effect of positions taken on their tax returns that may be challenged by the various taxing authorities, in order to provide users of financial statements more information regarding potential liabilities. The Company recognizes tax benefits and related reserves in accordance with existing SAP for liabilities, contingencies and impairments of assets.
  - (2) On December 22, 2017, the president signed into law H.R. I/Public Law 115-97 commonly known as the Tax Cuts and Jobs Act (the "Act"). The Act contains several key provisions that have significant financial statement effects. These provisions required the remeasurement of deferred tax assets and liabilities, and changed the method of computing deductions for life insurance reserves.
  - (3) The Act required the remeasurement of deferred taxes, as it reduces the corporate tax rate to 21 percent, effective January 1, 2018. Accordingly, the Company remeasured its net admitted deferred taxes as of the enactment date and recognized a decrease in surplus of \$1,096,517 in 2017. Of the \$1,096,517 net decrease, \$6,867,047 was reflected in the change in other deferred income taxes, \$10,717 was reflected in the change in net unrealized capital gains (losses), offset by increases of \$5,781,247 reflected in change in non-admitted assets.
  - (4) The Act revised the computation of life insurance tax reserves to be the greater of the net surrender value of a contract and 92.81 percent of statutory reserves. The revised reserve computation is effective for taxable years beginning after December 31, 2017. A transition rule requires life insurers to spread the difference between the prior year end reserves computed on the old basis and those computed on the new basis over eight years as either income or a deduction. The Company has recorded an estimated provision for this change by recognizing a net \$410,970 decrease in its deferred tax asset, offset by a corresponding decrease in its deferred tax liability that will reverse over the eight year transition period. The Company is in the process of modifying its tax reserve systems to incorporate the new method. The Company will update the provisional amount when it completes its system modifications during the measurement period, but no later than December 2018.

- (5) The Internal Revenue Service (IRS) has completed its examination of the tax returns filed for years 2013 and prior. The IRS commenced its exam of years 2014-2015 in September 2017. The adjustments resulting from the examinations are not expected to materially affect the position or liquidity of the Company.
- (6) With respect to the admitted DTAs calculation, effective January 1, 2018, the Act eliminates the ability to carryback net operating losses, therefore the amount of adjusted gross DTA admitted based on recoverable federal taxes is limited only to capital DTAs.

#### Note 10 – Information Concerning Parent, Subsidiaries and Affiliates

- a. The Company is a wholly owned subsidiary of C.M. Life Insurance Company (C.M. Life), a stock life insurance company domiciled in the state of Connecticut.
- b. The Company did not have any material non-insurance related party transactions during the years ended December 31, 2017 or 2016.
- c. See Schedule Y for SCA activity.
- d. The Company reported \$146,234 as amounts due from parent, subsidiaries and affiliates as of December 31, 2017 and \$125,904 as of December 31, 2016. The Company reported \$618,012 as amounts due to parent, subsidiaries and affiliates as of December 31, 2017 and \$2,310,794 as of December 31, 2016. Terms require settlement of these amounts within 30 to 90 days.
- e. The Company has a modified coinsurance (Modco) quota-share reinsurance agreement with MassMutual where the Company cedes 100% of the premium on certain bank-owned life insurance policies. In return, MassMutual pays the Company a stipulated expense allowance, death and surrender benefits. The Company retains the assets and related reserves for payment of future benefits on the ceded policies. The Modco adjustment is the mechanism by which MassMutual funds the reserve on the reinsured portion of the risk. It is needed to adjust for the financial effect of the Company holding the reserves on the ceded coverage rather than MassMutual.

The Company also has a stop-loss agreement with MassMutual under which the Company cedes claims which, in aggregate, exceed 1.24% of the covered volume for any year, with maximum coverage of \$25,000,000 above the aggregate limit. The aggregate limit was \$26,911,594 in 2017 and \$26,580,728 in 2016 and it was not exceeded in either year.

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

The net amounts outstanding and due from MassMutual for the various reinsurance agreements were \$23,289,192 as of December 31, 2017 and \$27,193,102 as of December 31, 2016. These outstanding balances are due and payable with terms ranging from monthly to annually, depending on the agreement in effect.

The following summarizes reinsurance transactions between the Company and MassMutual:

	Years Ended December 31,			mber 31,
		2017		2016
Premium expense ceded, related to: Stop-loss agreements Quota-share reimbursement agreements	\$	(173,782) (6,319,966)	\$	(307,860) (7,057,869)
Modified coinsurance adjustments ceded, included in fee and other income		(14,383,351)		(9,330,809)
Expense allowances on reinsurance ceded, included in fees and other expense, related to: Modified coinsurance agreements		5,875,935		5,738,728
Policyholders' benefits ceded, related to: Modified coinsurance agreements Quota-share reimbursement agreements		14,092,259 2,913,206		7,959,719 4,940,395
Experience refunds (paid) received, related to: Stop-loss agreements Modified coinsurance agreements		43,446 (1,110,401)		76,963 (1,135)

f. Pursuant to a management agreement, MassMutual, for a fee, furnishes to the Company, as required, operating facilities, human resources, computer software development and managerial services. Investment and administrative services are also provided to the Company pursuant to a management services agreement with MassMutual. While management believes that these fees are calculated on a reasonable basis, these fees may not necessarily be indicative of the costs that would have been incurred on a standalone basis.

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

	Years Ended December 31, 2017 2016		
	 2017		2010
Fee income:			
Recordkeeping and other services	\$ 719,530	\$	700,000
Investment advisory income	1,655,871		1,700,000
Fee expense:			
Management and service contracts and cost-sharing			
arrangements	8,645,579		8,962,070

The Company participates in variable annuity exchange programs with MassMutual, where certain variable annuity contract holders can make a nontaxable exchange of their contracts for enhanced MassMutual variable annuity contracts. The Company did not record any surrender benefits in 2017 or 2016 related to these exchange programs.

- g. All outstanding shares of the Company were owned by its parent.
- h. The Company does not have an investment in its parent.
- i. As of December 31, 2017, the Company did not have an investment in SCAs exceeding 10% of admitted assets.
- j. In 2017, the Company did not have impairment write-downs on its investments in affiliated bonds.

In 2016, the Company recognized \$6,452 in impairment write-downs on its investments in affiliated bonds.

The Company does not have an impairment write-down of any SCA entities during the statement periods.

- k. The Company has no foreign insurance subsidiary whose value is calculated by adjusting annuity GAAP account value reserves using the Commissioners' Annuity Reserve Valuation Method and the related Actuarial Guidelines.
  I. The Company does not hold an investment in a downstream noninsurance holding company.
- m. The Company does not have investments in foreign or noninsurance SCAs.
- n. The Company does not have any insurance SCAs for which the audited statutory equity reflects a departure from NAIC statutory accounting practices.

#### Note 11 - Debt

a. The Company did not have any capital notes or liability for borrowed money as of December 31, 2017 or 2016.

The Company did not have any debt that was considered to be extinguished by in-substance defeasance.

The Company did not set aside assets after the effective date of this statement solely for satisfying debt obligations.

b. The Company is not a member of the Federal Home Loan Bank (FHLB) therefore it has no FHLB funding agreements.

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

- a. The Company did not have any defined benefit pension plans for which the reporting entity is directly liable.
- b. The Company did not have any pension plans for which the reporting entity is directly liable.
- c. The Company did not have any pension plans for which the reporting entity is directly liable.
- d. The Company did not have any pension plans for which the reporting entity is directly liable.
- e. The Company did not have any defined contribution plans.
- f. The Company did not have multi-employer plans.
- g. Consolidated/Holding Company Plans: MassMutual charges allocated expenses to the Company based on relative weighted commissions for agents and time studies of its employees. The Company recorded an expense of \$860,151 for the year ended December 31, 2017 and \$891,540 for the year ended December 31, 2016 for these plans.
- h. The Company does not accrue for postemployment benefits and compensated absences since it does not have any employees.
- i. The Company did not have any plans under the Medicare Modernization Act.

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

(1) The Company had 50,000 shares of common stock authorized, 12,501 shares issued and outstanding as of December 31, 2017. The par value of the common stock is \$200 per share.

- (2) The Company did not have any preferred stock outstanding.
- (3) Without the prior approval of the Insurance Commissioner of the State of Connecticut (the Commissioner), total dividends paid to the Company's shareholder in a twelve month period are limited to the greater of (i) 10% of the Company's surplus as of December 31 of the preceding year or (ii) the net gain from operations for the twelve month period ending on December 31 of the preceding year; each case is determined using statutory accounting policies. In addition, the prior approval of the Commissioner is required if any dividend or distribution exceeds the Company's earned surplus. Under these regulations, \$29,530,637 of shareholder's equity is available for distribution to the shareholder in 2018 without prior regulatory approval.
- (4) The Company did not pay a dividend to C.M. Life in 2017.
- (5) Within the limits of (3) above, there are no restrictions placed on the portion of Company profits that may be paid as ordinary dividends to the stockholder.
- (6) There are no restrictions on unassigned surplus funds.
- (7) The Company did not make any advances to surplus.
- (8) The Company did not have any stock held for special purposes.
- (9) The Company does not have any special surplus funds.
- (10) The portion of unassigned funds (surplus) represented by net unrealized gains and losses (cumulative, net of deferred tax) was (\$60,472) as of December 31, 2017. The Company did not have unassigned funds (surplus) represented by net unrealized gains and losses (\$19,222) as of December 31, 2016.
- (11) The Company did not have any surplus debentures or similar obligations.
- (12) There were no restatements due to prior quasi-reorganizations.

(13) There were no quasi-reorganizations in the prior ten years.

#### Note 14 – Liabilities, Contingencies and Assessments a. Contingent commitments:

- a. Contingent commitments: In the normal course of business, the Company enters into commitments to purchase certain investments. The majority of these commitments have funding periods that extend between one and five years. The Company is not required to fund commitments once the commitment period expires. As of December 31, 2017 or 2016, the Company had no commitments.
- b. Assessments:

The Company is subject to insurance guaranty fund laws in the states in which it does business. These laws assess insurance companies' amounts to be used to pay benefits to policyholders and policy claimants of insolvent insurance companies. Many states allow these assessments to be credited against future premium taxes. The Company believes such assessments in excess of amounts accrued will not materially impact its financial position, results of operations or liquidity.

#### c. Gain contingencies: No material gain contingencies were realized subsequent to December 31, 2017 through the filing date.

- d. The Company did not have any claims related to extra contractual obligations in 2017.
- e. The Company has no joint and several liabilities.
- f. All other contingencies:

In the normal course of business, the Company is involved in disputes, litigation and governmental or regulatory inquiries, administrative proceedings, examinations and investigations, both pending and threatened. These matters, if resolved adversely against the Company or settled, may result in monetary damages, fines and penalties or require changes in the Company's business practices. The resolution or settlement of these matters is inherently difficult to predict. Based upon the Company's assessment of these pending matters, the Company does not believe that the amount of any judgment, settlement or other action arising from any pending matter is likely to have a material adverse effect on the statement of financial position. However, an adverse outcome in certain matters below could have a material adverse effect on the consolidated results of operations for the period in which such matter is resolved, or an accrual is determined to be required, on the financial statement financial position, or on our reputation.

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

#### Note 15 – Leases

b.

The Company did not have any lease obligations.

#### <u>Note 16 – Information About Financial Instruments With Off-Balance Sheet Risk and Financial Instruments With Concentrations of</u> Credit Risk

There were no contracts for the years ended December 31, 2017 or 2016.

### Note 17 – Sale, Transfer and Servicing of Financial Assets and Extinguishments of Liabilities a. During 2017 and 2016, the Company did not transfer any receivables that were reported as sales.

- - Transfer and Servicing of Financial Assets: (1) The Company did not participate in securities lending as of December 31, 2017 or 2016.
    - (2) The Company did not have any servicing assets or liabilities in 2017 or 2016.
    - (3) The Company did not have any servicing assets or liabilities in 2017 or 2016.
    - (4) The Company did not have interests that continue to be held by a transferor in securitized financial assets in 2017 or 2016.
    - (5) The Company did not have any transfers of financial assets accounted for as secured borrowing in 2017 or 2016.
    - (6) The Company did not have any transfers of receivables with recourse in 2017 or 2016.
    - (7) See Note 5e1 "Repurchase Agreements".
- c. Wash sales:
  - In the course of the Company's investment management activities, securities may be sold and reacquired within 30 days of the sale date to enhance the Company's yield on its investment portfolio.
  - (2) The Company did not sell any securities with the NAIC Designation 3 or below for the year ended December 31, 2017 or 2016, that were reacquired within 30 days of the sale date.

#### <u>Note 18 – Gain or Loss to the Reporting Entity from Uninsured Plans and the Uninsured Portion of Partially Insured Plans</u> The Company did not write any accident and health plans. Therefore, the Company did not have any uninsured accident and health

plans.

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

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

### Note 20 – Fair Value Measurements

а.

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

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

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

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

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

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

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

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

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

	December 31, 2017						
	Level 1	Level 2	Level 3	Total			
Financial assets:							
Bonds:							
Parent, subsidiaries and affiliates	\$-	\$ 452,453	\$-	\$ 452,453			
Separate account assets <sup>(1)</sup>	1,043,779,636	2,311,676,298	-	3,355,455,934			
Total financial assets carried							
at fair value	<u>\$ 1,043,779,636</u>	\$ 2,312,128,751	\$	\$ 3,355,908,387			

<sup>(1)</sup>\$1,109,220,223 of book value separate account assets are not carried at fair value and, therefore, are not included in this table.

For the period ended December 31, 2017, there were no significant transfers between Level 1 and Level 2.

	December 31, 2016							
		Level 1		Level 2		Level 3		Total
Financial assets:								
Bonds:								
Parent, subsidiaries and affiliates	\$	-	\$	524,103	\$		-	\$ 524,103
Separate account assets <sup>(1)</sup>		922,485,384		2,302,419,763			-	3,224,905,147
Total financial assets carried								
at fair value	\$	922,485,384	\$	2,302,943,866	\$		-	\$ 3,225,429,250

<sup>(1)</sup>\$1,087,146,232 of book value separate account assets are not carried at fair value and, therefore, are not included in this table.

For the year ended December 31, 2016, there were no significant transfers between Level 1 and Level 2.

(2) The Company does not have any Level 3 financial instruments that are carried at fair value.

- (3) The Company reviews the fair value hierarchy classifications at each reporting period. Overall, reclassifications between levels occur when there are changes in the observability of inputs and market activity used in the valuation of a financial asset or liability. Such reclassifications are reported as transfers between levels at the beginning fair value for the reporting period in which the changes occur. Given the types of assets classified as Level 1 (primarily equity securities and mutual fund investments), transfers between Level 1 and Level 2 measurement categories are expected to be infrequent. Transfers into and out of Level 3 are summarized in the schedule of changes in Level 3 assets and liabilities.
- (4) Valuation Techniques and Inputs

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

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

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

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

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

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

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

			December 31, 20	17		
	 Aggregate Fair Value	Admitted Assets	Level 1	Level 2	Level 3	Not Practicable (Carrying Value)
Financial assets:						,
Bonds:						
U.S. government and agencies	\$ 39,143,523	\$ 39,541,458	\$ - \$	39,143,523	\$ -	\$ -
Special revenue	61,823	55,923	-	61,823	-	-
Industrial and miscellaneous	269,796,515	265,755,184	-	268,378,485	1,418,030	-
Parent, subsidiaries and affiliates	7,184,666	7,099,665	-	7,184,666	-	-
Mortgage loans - residential	3,087,102	3,187,846	-	-	3,087,102	-
Cash, cash equivalents and						
short-term investments	55,147,328	55,147,328	(3,042,971)	58,190,299	-	-
Separate account assets	4,476,743,352	4,464,676,157	1,043,779,636	3,418,899,196	14,064,520	-
Financial liabilities:						
Individual annuity contracts	2,266,510	2,940,410	-	-	2,266,510	-
Supplementary contracts	13,007,075	12,878,292	-	-	13,007,075	-

			December 31, 20	16		
	 Aggregate Fair Value	Admitted Assets	Level 1	Level 2	Level 3	Not Practicable (Carrying Value)
Financial assets:						,
Bonds:						
U.S. government and agencies	\$ 39,216,346	\$ 39,357,823	\$ - \$	39,216,346	\$ -	\$ -
Special revenue	72,640	66,143	-	72,640	-	-
Industrial and miscellaneous	266,229,273	264,388,709	-	252,459,408	13,769,865	-
Parent, subsidiaries and affiliates	6,442,873	6,404,131	-	6,442,873	-	-
Mortgage loans - residential	3,921,346	4,007,088	-	-	3,921,346	-
Cash, cash equivalents and						
short-term investments	62,691,625	62,691,625	(2,302,765)	64,994,390	-	-
Separate account assets	4,320,299,668	4,312,051,379	923,105,179	3,381,127,144	16,067,345	-
Financial liabilities:						
Individual annuity contracts	2,225,733	3,061,780	-	-	2,225,733	-
Supplementary contracts	11,538,373	11,424,132	-	-	11,538,373	-

d. As of December 31, 2017 and December 31, 2016, the Company had no investments where it was not practicable to estimate fair value.

### Note 21 – Other Items

a. There were no unusual or infrequent items requiring disclosure.

b. There were no troubled debt restructurings that occurred during the period for which the financial statements are presented.

### c. Other disclosures:

The Company had assets on deposit with government authorities or trustees, as required by law, in the amount of \$4,466,341 as of December 31, 2017 and \$4,265,185 as of December 31, 2016.

### Business risks

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

#### Insurance and underwriting risks

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

### Investment and interest rate risks

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

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

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

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

#### Credit and other market risks

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

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

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

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

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

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

### **Political Uncertainties**

Political events, such as the ongoing volatility with respect to the European Union, may trigger or exacerbate the risk factors described above. Whether those underlying risk factors are driven by politics or not, the Company's dynamic approach to managing risks enables us to utilize the mitigating actions described above to attempt to reduce the potential impact of each underlying risk factor on the Company.

- d. The Company did not receive any business interruption recoveries in 2017.
- e. The Company did not have unused transferable or non-transferable state tax credits as of December 31, 2017.

### f. Subprime mortgage related risk exposure:

As of December 31, 2017 and 2016, the Company did not have any direct exposure through investments in subprime mortgage loans.

(1) Direct exposure through other investments

### RMBS risk exposure:

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

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

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

Residential mortgage loan pools are homogeneous residential mortgage loans substantially backed by FHA and VA guarantees. The Company purchases seasoned loan pools, most of which are FHA insured or VA guaranteed. The Company does not originate any residential mortgages but invests in residential mortgage loan pools which may contain mortgages of subprime credit quality. As of December 31, 2017 and 2016, the Company did not have any direct subprime exposure through purchases of unsecuritized whole-loan pools.

- (2) The Company has no underwriting exposure to subprime mortgage risk through Mortgage Guaranty or Financial Guaranty insurance coverage.
- (3) The actual cost reduced by paydowns, carrying value, fair value and related gross realized losses from OTTI of the Company's investments with significant Alt-A and subprime exposure were as follows:

_		Dece	ember 31, 2017	7		Dec	Year Ended ember 31, 2017
	Actual		Carrying		Fair		
Alt-A:	Cost		Value		Value		OTTI
a. Residential mortgage-backed securities $\$$	1,042,852	\$	1,105,302	\$	1,282,584	\$	7,000
b. Commercial mortgage-backed securities	-		-		-		-
c. Collateralized debt obligations	-		-		-		-
d. Structured securities	-		-		-		-
e. Equity investments in SCA	-		-		-		-
f. Other assets	-		-		-		-
g. Total \$	1,042,852	\$	1,105,302	\$	1,282,584	\$	7,000

\_ . .

## NOTES TO FINANCIAL STATEMENTS

		Dece	ember 31, 2017	7		ear Ended mber 31, 20	)17
	Actual		Carrying		Fair		
Subprime:	Cost		Value		Value	OTTI	
a. Residential mortgage-backed securities \$	1,218,129	\$	1,545,847	\$	1,909,468	\$	-
b. Commercial mortgage-backed securities	-		-		-		-
c. Collateralized debt obligations	-		-		-		-
d. Structured securities	-		-		-		-
e. Equity investments in SCA	-		-		-		-
f. Other assets	-		-		-		-
g. Total	1,218,129	\$	1,545,847	\$	1,909,468	\$	-

		Dece	ember 31, 2010	6		Year Ended ember 31, 2016
	Actual	Fair				
Alt-A:	Cost		Value		Value	OTTI
a. Residential mortgage-backed securities \$	2,025,204	\$	1,322,448	\$	1,746,541	\$ 19
b. Commercial mortgage-backed securities	-		-		-	-
c. Collateralized debt obligations	-		-		-	-
d. Structured securities	-		-		-	-
e. Equity investments in SCA	-		-		-	-
f. Other assets	-		-		-	-
g. Total	2,025,204	\$	1,322,448	\$	1,746,541	\$ 19

						١	ear Ended
_		Dece	ember 31, 2010	6		Dece	ember 31, 2016
	Actual	(	Carrying		Fair		
Subprime:	Cost		Value		Value		ΟΤΤΙ
a. Residential mortgage-backed securities \$	3,193,121	\$	1,803,842	\$	2,235,591	\$	6,452
b. Commercial mortgage-backed securities	-		-		-		-
c. Collateralized debt obligations	-		-		-		-
d. Structured securities	-		-		-		-
e. Equity investments in SCA	-		-		-		
f. Other assets	-		-		-		-
g. Total \$	3,193,121	\$	1,803,842	\$	2,235,591	\$	6,452

### g. Retained asset accounts:

(1) The Company offers the use of retained asset accounts as one of the options available to beneficiaries. This option must be affirmatively elected and is not treated as a default. An unaffiliated third party provider services certain aspects of the retained asset accounts. Beneficiaries draw funds from retained asset accounts utilizing drafts. The Company funds those drafts through an unaffiliated bank. During the reporting year, the interest earned by beneficiaries was an annual effective rate of 0.25% and did not change within the reporting year. There is no fee charged to the beneficiary to establish this account. There are no maintenance or service fees. A \$12 stop payment fee, a \$10 insufficient funds fee and a \$2 duplicate draft fee will apply. Assets and liabilities relating to retained asset accounts without life contingencies.

(2)		F		et Acc embe	ounts In Force r 31,		
	2	2017			2	016	
	Number		Balance		Number		Balance
Account aging categories:							
a. Up to and including 12 months	4	\$	285,909		5	\$	533,222
b. 13 to 24 months	2		138,190		6		266,396
c. 25 to 36 months	4		201,882		7		427,586
d. 37 to 48 months	6		265,654		2		11,056
e. 49 to 60 months	1		8,788		3		292,422
f. Over 60 months	2		230,702		1		-
g. Total	19	\$	1,131,125		24	\$	1,530,682

(3)	Indi	ividu	al	Group	0
	Number		Balance	Number	Balance
a. Retained asset accounts as of January 1, 2017	23	\$	1,530,682	- \$	-
b. Retained asset accounts issued	6		817,932	-	-
c. Investment earnings credited to retained					
accounts	N/A		4,913	N/A	-
d. Fees and other charges assessed to retained					
asset accounts	N/A		-	N/A	-
e. Retained asset accounts transferred to state					
unclaimed property funds	-		-	-	-
f. Retained asset accounts closed/withdrawn	(10)		(1,222,402)	-	-
g. Retained asset accounts as of December 31, 2017	19	\$	1,131,125	- \$	-

h. Insurance-linked securities:

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

### Note 22 – Events Subsequent

Management of the Company has evaluated subsequent events through February 16, 2018, the date the financial statements were available to be issued. No events have occurred subsequent to the date of the statement of financial position and before the date of evaluation that would require disclosure.

### Note 23 – Reinsurance

a.

Ceded Reinsurance Report:

- Section 1 General Interrogatories:
  - (1) The Company and its officers and directors do not own any portion of a nonaffiliated reinsurer.
  - (2) The Company did not reinsure any policies with a company chartered in a country other than the U.S., excluding U.S. branches of these companies, which was owned in excess of 10% or controlled directly or indirectly by an insured, a beneficiary, a creditor or any other person not primarily engaged in the insurance business.

Section 2 - Ceded Reinsurance Report - Part A:

- (1) There are no reinsurance agreements in effect under which the reinsurer may unilaterally cancel any reinsurance for reasons other than for nonpayment of premium or other similar credits.
- (2) The Company has no reinsurance agreements in effect such that the amount of losses paid or accrued through the statement date may result in a payment to the reinsurer of amounts which, in aggregate and allowing for offset of mutual credits from other reinsurance agreements with the same reinsurer, exceed the total direct premium collected under the reinsured policies.

Section 3 - Ceded Reinsurance Report - Part B:

- (1) If all reinsurance agreements were terminated by either party as of December 31, 2017, the resulting reduction in surplus due to loss of reinsurance reserve credits net of unearned premium would be \$11,224,111, assuming no return of the assets (excluding assets in trust) backing these reserves from the reinsurer to the Company.
- (2) No new agreements have been executed or existing agreements amended, since January 1, 2017, to include policies or contracts that were in force or had existing reserves established by the Company as of the effective date of the agreement.

Effective December 31, 2016, the Company entered into a reinsurance agreement with an authorized third-party to reinsure approximately 100% of certain of the Company's inforce variable life policies. Under the terms of the agreements, the Company received \$55,515,325 of consideration from the reinsurer. The variable life policies are reinsured on a Modco basis. Under the terms of the agreements, the Company will maintain responsibility for servicing the policies. The Company ceded premium of \$122,016,560 and recorded a \$36,084,961 increase in the Statutory Statements of Changes in Surplus in conjunction with these agreements.

- b. The Company did not write off any reinsurance balances.
- c. The Company did not commute any ceded reinsurance.
- d. The Company did not reinsure any policies with a certified reinsurer whose rating was downgraded or status subject to revocation.
- e. The Company does not have reinsurance of variable annuity contracts with an affiliated captive reinsurer.
- f. The Company does not have reinsurance of variable annuity contracts with an affiliated captive reinsurer.

# g. Ceding entities that utilize captive reinsurers to assume reserves subject to the XXX/AXXX captive framework. (1) Ceding reinsurers in which a risk-based capital shortfall exists per the risk-based capital XXX/AXXX captive reinsurance consolidated exhibit:

a. Captives with risk-based capital shortfall

Cession ID	NAIC Company Code	ID Number	Name of Captive Insurer	risk ca	ount of -based apital ortfall
			None	\$	-
			None	\$	-
			None	\$	-
Total					-
b. Effect of ris	k-based capital	l shortfall on to	tal adjusted capital (TAC)		
1. Total adju	sted capital (TA	AC) (Five-Yea	ar Historical Line 30)	\$	-
2. Risk-base	d capital shortfa	all (Sum of g	(1)a1 Column 5)	\$	-

3. Total adjusted capital (TAC) before risk-based capital shortfall (g(1)b1 + g(1)b2)) \$

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

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

Total

### Note 24 - Retrospectively Rated Contracts and Contracts Subject to Redetermination

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

### Note 25 – Change in Incurred Losses and Loss Adjustment Expenses

There was no increase to reserves in 2017 for incurred losses and loss adjustment expenses attributable to insured events of prior years, which considered corrections of prior year errors.

### Note 26 - Intercompany Pooling Arrangements

The Company did not have any intercompany pooling arrangements.

### Note 27 – Structured Settlements

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

### Note 28 – Health Care Receivables

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

### Note 29 – Participating Policies

The Company did not issue participating policies.

#### Note 30 – Premium Deficiency Reserves

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

### Note 31 – Reserves for Life Contracts and Annuity Contracts

- (1) The Company waives deduction of deferred fractional premium at death and returns any portion of the final premium beyond the date of death. Reserves are computed using continuous functions to reflect these practices. Surrender values were not promised in excess of the legally computed reserves.
- (2) The Company charges a higher premium on certain contracts that cover substandard mortality risk. For these policies, the reserve calculations are based on a substandard mortality rate, which is a multiple of the standard mortality tables.
- (3) The Company did not have any insurance in force as of December 31, 2017, for which the gross premium was less than the net premium according to the standard valuation set by the Department.
- (4) Tabular interest was determined for Variable life general account reserves using a formula that applies a weighted average credited rate to the mean account value.
- (5) Liabilities for investment-type contracts such as supplementary contracts not involving life contingencies are based on account value or accepted actuarial methods using applicable interest rates. Refer to Note 20 a. "Fair Value Measurements" for information on the Company's policy for determining fair value.

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

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

			De	cen	nber 31, 2017		
		 General Account	Separate Account w/ Guarantees	No	Separate Account onguaranteed	Total	% of Total
a.	Subject to discretionary withdrawal:						
	<ol> <li>With market value adjustment</li> <li>At book value less current surrender</li> </ol>	\$ 2,179,337	\$	- \$	- \$	2,179,337	4 %
	charge of 5% or more	-		-	-	-	-
	(3) At fair value	 -		-	42,327,216	42,327,216	71
	(4) Total with market value adjustment or at fair value	2,179,337		-	42,327,216	44,506,553	76
	(5) At book value without adjustment	12,878,292		-	-	12,878,292	22
b.	Not subject to discretionary withdrawal provision	1,013,460		-	-	1,013,460	2
C.	Total (gross)	 16,071,089		-	42,327,216	58,398,305	100
d.	Reinsurance ceded	 -		-	-	-	
e.	Total (net)* (gross less reinsurance ceded)	\$ 16,071,089	\$	- \$	42,327,216 \$	58,398,305	100 %

\*Reconciliation of total annuity actuarial reserves and deposit-type fund liabilities.

f.	Life and Accident and Health Annual Statement:	
	(1) Exhibit 5, annuities section, total (net)	\$ 3,084,985
	(2) Exhibit 5, supplementary contracts with life contingencies section, total (net)	-
	(3) Exhibit 7, deposit-type contracts Column 1, Line 14	 12,986,104
	(4) Subtotal	 16,071,089
	Separate Accounts Annual Statement:	
	(5) Exhibit 3, annuities section, total (net)	42,327,216
	(6) Exhibit 3, supplementary contracts section, total (net)	-
	(7) Policyholders dividend and coupon accumulations	-
	(8) Policyholder premiums	-
	(9) Guaranteed interest contracts	-
	(10) Other contract deposit funds	 -
	(11) Subtotal	 42,327,216
	(12) Combined total	\$ 58,398,305

g. The Company is not a member of the FHLB therefore it has no FHLB funding agreements.

### Note 33 – Premium and Annuity Considerations Deferred and Uncollected

a. Deferred and uncollected life insurance premiums and annuity considerations as of December 31, 2017, were as follows:

	Туре	Gross	Ne	et of Loading
(1)	Industrial	\$ -	\$	-
(2)	Ordinary new business	-		-
(3)	Ordinary renewal	(2,692,348)		(2,702,632)
(4)	Credit life	-		-
(5)	Group life	(174,568)		(174,568)
(6)	Group annuity	 -		-
(7)	Totals	\$ (2,866,916)	\$	(2,877,200)

### Note 34 – Separate Accounts

a.

f.

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

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

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

As of December 31, 2017 and 2016, the Company's NAIC Separate Account Annual Statement included Separate Accounts with legally insulated products of \$4,451,883,060 and \$4,312,051,379, respectively. Assets backing products which are not legally insulated are available to satisfy general obligations of the Company. The assets backing legally insulated products from the general account as of December 31, 2017 are attributed to the following:

	 Separate Ac	count A	Assets
	 Legally		Not Legally
	 Insulated		Insulated
Product/Transaction:			
Stable Value Bank-Owned Life Insurance	\$ 2,272,572,400	\$	-
Bank-Owned Life Insurance - Guaranteed	1,096,427,126		12,793,097
Individual Variable Universal Life	771,080,847		-
Corporate-Owned Life Insurance	269,443,338		-
Individual Variable Annuity	 42,359,349		-
Total	\$ 4,451,883,060	\$	12,793,097

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

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

\$

For the year ended December 31, 2017, the general account of the Company had paid \$278,674 toward separate account guarantees. The total separate account guarantees paid by the general account for the preceding years ending December 31, 2016, 2015, 2014, and 2013 was \$517,611, \$386,032, \$163,645, and \$610,923, respectively.

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

### Condition That Requires GAAP General Account Reporting

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

(4) The Company does not engage in securities lending transactions within the separate accounts.

### b. General nature and characteristics of separate account business:

The Company has guaranteed separate accounts classified as nonindexed to fund a long-term interest guarantee in excess of a year that does not exceed 4%. The Company has nonguaranteed separate accounts that are variable accounts where the benefit is determined by the performance and/or market value of the investments held in the separate account with incidental risk, notional expense and minimum death benefit guarantees.

Information regarding the separate accounts of the Company as of and for the year ended December 31, 2017 is as follows:

		Index		Nonindexed Guarantee Less than/ Equal to 4%	Nonindexed Guarantee More than 4%	Nonguaranteed Separate Accounts	Total
(1)	Premiums, considerations or deposits for the year ended December 31, 2017						
		\$	- \$	- \$	- \$	32,393,315 \$	32,393,315
Pecerve	s at December 31, 2017:						
(2)	For accounts with assets at:						
a.	Fair value	\$	- \$	- \$	- \$	3,336,055,375 \$	3,336,055,375
b.	Amortized cost		-	1,117,162,599 -		-	1,117,162,599
C.	Total Reserves*	\$	- \$	1,117,162,599 \$	- \$	3,336,055,375 \$	4,453,217,974
(3) a.	By withdrawal characteristics: Subject to discretionary						
	withdrawal:	\$	- \$	- \$	- \$	- \$	-
	<ul> <li>With market value adjustment</li> <li>At book value without market value adjustment and with current surrender charge of 5%</li> </ul>	, 0	-	-	-	-	-
	or more		-	-	-	-	-
	<ul> <li>At fair value</li> <li>At book value, without market value adjustment and with current surrender charge of</li> </ul>		-	-	-	3,336,055,375	3,336,055,375
	less than 5%		-	1,117,162,599	-	-	1,117,162,599
5 b.	. Subtotal Not subject to discretionary withdrawal	\$	- \$ -	1,117,162,599 \$	- \$	3,336,055,375 \$ -	4,453,217,974
C.	Total	\$	- \$	1,117,162,599 \$	- \$	3,336,055,375 \$	4,453,217,974
(4)	Reserves for Assets Default Risk in Lieu of AVR	\$	- \$	- \$	- \$	- \$	<u>.</u>
*Line 2(d	c) should equal Line 3(h)						
	liation of net transfers (from) to s			Dece	ember 31, 2017		
(1)	Transfers as reported in the Su Separate Account Statement:	Immary of Ope	rations	s of the			
(2)	<ul><li>(a) Transfers to separate acco</li><li>(b) Transfers from separate ac</li><li>(c) Net transfers to (from) separate</li><li>Reconciling adjustments:</li></ul>	counts (Page 4 arate accounts	4, Line	. 10)	32,393,315 (76,445,370) (44,052,055)		
(3)	(a) Net deposits on deposit-typ		. e		-		
(3)	Transfers as reported in the Su Life, Accident & Health Annual		rations	s of the <u>\$</u>	(44,052,055)		
	(1c) + (2) = (Page 4, Line 26)						

c.

<u>Note 35 – Loss/Claim Adjustment Expenses</u> The Company did not have any loss/claim adjustment expenses.

**GENERAL INTERROGATORIES** 

## PART 1 - COMMON INTERROGATORIES

## GENERAL

1.1	Is the reporting entity a member of an Insurance Holding Company System consisting of two or more affiliated persons, one or more of w is an insurer? If yes, complete Schedule Y, Parts 1, 1A and 2		[X	] No [	[]
1.2	If yes, did the reporting entity register and file with its domiciliary State Insurance Commissioner, Director or Superintendent, or with such regulatory official of the state of domicile of the principal insurer in the Holding Company System, a registration statement providing disclosure substantially similar to the standards adopted by the National Association of Insurance Commissioners (NAIC) in its Model Insurance Holding Company System Regulatory Act and model regulations pertaining thereto, or is the reporting entity subject to standards and disclosure requirements substantially similar to those required by such Act and regulations?	Yes [X] M	lo [	] N//	A [ ]
1.3	State Regulating?	Co	nnect	icut	
2.1	Has any change been made during the year of this statement in the charter, by-laws, articles of incorporation, or deed of settlement of th reporting entity?		[	] No [	[X]
2.2	If yes, date of change:				
3.1	State as of what date the latest financial examination of the reporting entity was made or is being made.	12	2/31/2	2014	
3.2	State the as of date that the latest financial examination report became available from either the state of domicile or the reporting entity. This date should be the date of the examined balance sheet and not the date the report was completed or released.	12	2/31/2	2014	
3.3	State as of what date the latest financial examination report became available to other states or the public from either the state of domicile or the reporting entity. This is the release date or completion date of the examination report and not the date of the examination (balance sheet date).	. 05	5/31/2	2016	
3.4	By what department or departments? State of Connecticut Insurance Department				
3.5	Have all financial statement adjustments within the latest financial examination report been accounted for in a subsequent financial statement filed with Departments?	Yes [ ] M	lo [	] N//	A [ X ]
3.6	Have all of the recommendations within the latest financial examination report been complied with?	Yes [X] M	lo [	] N//	4[]
4.1	During the period covered by this statement, did any agent, broker, sales representative, non-affiliated sales/service organization or any combination thereof under common control (other than salaried employees of the reporting entity), receive credit or commissions for or control a substantial part (more than 20 percent of any major line of business measured on direct premiums) of: 4.11 sales of new business? 4.22 renewals?	Yes	-	] No [ ] No [	
4.2	During the period covered by this statement, did any sales/service organization owned in whole or in part by the reporting entity or an affi receive credit or commissions for or control a substantial part (more than 20 percent of any major line of business measured on direct premiums) of: 4.21 sales of new business?		r	1 N. 1	
	4.21 sales of new business?			] No [ ] No [	
5.1	Has the reporting entity been a party to a merger or consolidation during the period covered by this statement?	Yes	[	] No [	[ X ]
5.2	If yes, provide the name of the entity, NAIC Company Code, and state of domicile (use two letter state abbreviation) for any entity that has ceased to exist as a result of the merger or consolidation.	as			
	1     2     3       Name of Entity     NAIC Company Code     State of Domicile				
6.1	Has the reporting entity had any Certificates of Authority, licenses or registrations (including corporate registration, if applicable) suspend revoked by any governmental entity during the reporting period?		[	] No [	[ X ]
6.2	If yes, give full information:				
7.1	Does any foreign (non-United States) person or entity directly or indirectly control 10% or more of the reporting entity?		[	] No [	[ X ]
7.2	If yes, 7.21 State the percentage of foreign control;	<u>.</u>			%

attorney-in-fact; and identify the type of entity(s) (e.g., individual, corporation or government, manager or attorney in fact).

1	2
Nationality	Type of Entity

## ANNUAL STATEMENT FOR THE YEAR 2017 OF THE MML Bay State Life Insurance Company GENERAL INTERROGATORIES

8.1 8.2	Is the company a subsidiary of a bank holding company regulated by If response to 8.1 is yes, please identify the name of the bank holding	g company.				Yes [	] No [ X ]	]
8.3 8.4							] No [ ]	J
	1	2	3	4	5	6		
	Affiliate Name Baring International Investment Limited	Location (City, State)	FRB	OCC	FDIC	SEC		
	Baring International Investment Limited Barings Securities, LLC	London, UK				YES YES		
	ML Distributors, LLC	Boston, MA				YES		
	MML Investment Advisers, LLC	Enfield CT				YES		
	MML Investors Services, LLC	Springfield MA				YES		
	MML Strategic Distributors, LLC	Springfield. MA						
	MMLISI Financial Alliances, LLC	Springfield. MA				YES		
	OppenheimerFunds Distributor, Inc.							
	The MassMutual Trust Company, FSB	Enfield, CT		YES				
9. 10.1 10.2	What is the name and address of the independent certified public ac KPMG, LLP, One Financial Plaza, Hartford, CT 06103 Has the insurer been granted any exemptions to the prohibited non-a requirements as allowed in Section 7H of the Annual Financial Rep law or regulation? If the response to 10.1 is yes, provide information related to this exer	ecountant or accounting firm retained to conduct the audit services provided by the certified independent porting Model Regulation (Model Audit Rule), or sub mption:	annual a public ac stantially s	udit? countan similar s	tate	Yes [	] No [ X ]	]
10.3	Has the insurer been granted any exemptions related to the other reg	quirements of the Annual Financial Reporting Mode	el Regulati	on as		Veo [		1
10.4	allowed for in Section 18A of the Model Regulation, or substantially If the response to 10.3 is yes, provide information related to this exer	mption:				ies [	] NU [ X ]	1
10.5 10.6	Has the reporting entity established an Audit Committee in compliant If the response to 10.5 is no or n/a, please explain	ce with the domiciliary state insurance laws?			Yes [ X	] No [	] N/A [	]
11.	What is the name, address and affiliation (officer/employee of the rep firm) of the individual providing the statement of actuarial opinion/co Douglas W Taylor, FSA, MAAA, Vice President and Appointed Actua	porting entity or actuary/consultant associated with ertification? ary, 1295 State Street, Springfield, MA 01111	an actuari	al consu	ılting			
12.1	Does the reporting entity own any securities of a real estate holding of	company or otherwise hold real estate indirectly?				Yes [ X	] No [ ]	1
	12.11 Name of rea	al estate holding company See 12.2						
		parcels involved						
	12.13 Total book/a	adjusted carrying value				\$	16 , 264 , 7	712
12.2	If, yes provide explanation:							
	The company has investments in debt securities in 24 parcels which 2017 of debt is \$16,242,712.							
13.	FOR UNITED STATES BRANCHES OF ALIEN REPORTING ENTI							
13.1	What changes have been made during the year in the United States	manager or the United States trustees of the repor	ting entity	?				
13.2	Does this statement contain all business transacted for the reporting	entity through its United States Branch on risks wh	erever loo	ated?		Yes [	] No [ ]	]
13.3	Have there been any changes made to any of the trust indentures du						] No [ ]	
13.4	If answer to (13.3) is yes, has the domiciliary or entry state approved	I the changes?			Yes [	] No [	] N/A [	]
14.1	Are the senior officers (principal executive officer, principal financial of similar functions) of the reporting entity subject to a code of ethics, (a) Honest and ethical conduct, including the ethical handling of acture relationships;	which includes the following standards? al or apparent conflicts of interest between persona	al and prof			Yes [ X	] No [ ]	]
	<ul> <li>(b) Full, fair, accurate, timely and understandable disclosure in the period</li> <li>(c) Compliance with applicable governmental laws, rules and regulat</li> <li>(d) The prompt internal reporting of violations to an appropriate person</li> </ul>	tions;	entity,					
14.11	(e) Accountability for adherence to the code. If the response to 14.1 is No, please explain:							
14.0	Has the code of ethics for senior managers been amended?					Vac I V	1 No 1 1	1
14.2 14.21	If the response to 14.2 is yes, provide information related to amender					res [ X	] No [ ]	1
	The revision to the Code includes incorporating the new MassMutual unwanted business risk; heightens risk awareness and enhances e concerns.	I logo and brand; clarity in how following the Code h thical decision-making; and identifies multiple reso	urces for r	aising				
14.3 14.31	Have any provisions of the code of ethics been waived for any of the If the response to 14.3 is yes, provide the nature of any waiver(s).	specified officers?				Yes [	] No [ X ]	]

## ANNUAL STATEMENT FOR THE YEAR 2017 OF THE MML Bay State Life Insurance Company **GENERAL INTERROGATORIES**

15.1 Is the reporting entity the beneficiary of a Letter of Credit that is unrelated to reinsurance where the issuing or confirming bank is not on the SVO Bank List?
15.2 If the response to 15.1 is yes, indicate the American Bankers Association (ABA) Routing Number and the name of the issuing or confirming bank of the Letter of Credit and describe the circumstances in which the Letter of Credit is triggered.

Yes [ ] No [ X ]

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

### **BOARD OF DIRECTORS**

16.	Is the purchase or sale of all investments of the reporting entity passed upon either by the board of thereof?		Yes [	хı	No [	1
17.	Does the reporting entity keep a complete permanent record of the proceedings of its board of dir	ectors and all subordinate committees	Yes [	-	-	1
18.	thereof?	es of any material interest or affiliation on the	Yes [	-	-	]
	FINANCIAL					
19.	Has this statement been prepared using a basis of accounting other than Statutory Accounting Pr	inciples (e.g., Generally Accepted				
	Accounting Principles)?		Yes [	]	No [	X ]
20.1	Total amount loaned during the year (inclusive of Separate Accounts, exclusive of policy loans):	20.11 To directors or other officers	.\$			
		20.12 To stockholders not officers	.\$			
		20.13 Trustees, supreme or grand				
		(Fraternal Only)	\$			
20.2	Total amount of loans outstanding at the end of year (inclusive of Separate Accounts, exclusive of	f	•			
	policy loans):	20.21 To directors or other officers				
		20.22 To stockholders not officers	_\$			
		20.23 Trustees, supreme or grand (Fraternal Only)	¢			
21.1	Were any assets reported in this statement subject to a contractual obligation to transfer to anoth	er party without the liability for such	.φ			
21.1	obligation being reported in the statement?		Yes [	1	No [	X 1
21.2	If yes, state the amount thereof at December 31 of the current year:	21.21 Rented from others				
		21.22 Borrowed from others	\$			
		21.23 Leased from others	\$			
		21.24 Other	\$			
22.1	Does this statement include payments for assessments as described in the Annual Statement Ins guaranty association assessments?	structions other than guaranty fund or				
22.2	If answer is yes: 2	2.21 Amount paid as losses or risk adjustment	\$			
	2	2.22 Amount paid as expenses	.\$			
	2	2.23 Other amounts paid	\$			
23.1	Does the reporting entity report any amounts due from parent, subsidiaries or affiliates on Page 2					
23.2	If yes, indicate any amounts receivable from parent included in the Page 2 amount:					
	INVESTMENT					
24.01	Were all the stocks, bonds and other securities owned December 31 of current year, over which the actual possession of the reporting entity on said date? (other than securities lending program		Yes [	X ]	No [	]
24.02	If no, give full and complete information relating thereto					
24.03	For security lending programs, provide a description of the program including value for collateral a whether collateral is carried on or off-balance sheet. (an alternative is to reference Note 17 when N/A	e this information is also provided)				
24.04	Does the Company's security landing program meet the requirements for a conforming program of	as outlined in the Rick-Based Capital				

24.04	Does the Company's security lending program meet the requirements for a conforming program as outlined in the Risk-Based Capital Instructions?	Yes [	]	No [	]	N.	/A [	X	]
24.05	If answer to 24.04 is yes, report amount of collateral for conforming programs.		\$						
24.06	If answer to 24.04 is no, report amount of collateral for other programs.		\$						
24.07	Does your securities lending program require 102% (domestic securities) and 105% (foreign securities) from the counterparty at the outset of the contract?	Yes [	]	No [	]	N.	/A [	Х	]
24.08	Does the reporting entity non-admit when the collateral received from the counterparty falls below 100%?	Yes [	]	No [	]	N.	/A [	Х	]
24.09	Does the reporting entity or the reporting entity 's securities lending agent utilize the Master Securities lending Agreement (MSLA) to conduct securities lending?	Yes [	]	No [	]	N.	/A [	Х	]

## **GENERAL INTERROGATORIES**

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

	24.102 Total book adjusted/carrying value of r	assets reported on Schedule DL, Parts 1 and 2 einvested collateral assets reported on Schedule DL, Parts 1 and 2 orted on the liability page.	\$
25.1	control of the reporting entity, or has the reporting entity sold of	entity owned at December 31 of the current year not exclusively under the or transferred any assets subject to a put option contract that is currently in 4.03).	Yes [ X ] No [ ]
25.2	If yes, state the amount thereof at December 31 of the current	year: 25.21 Subject to repurchase agreements	\$
-	<b>,</b> ,	25.22 Subject to reverse repurchase agreements	
		25.23 Subject to dollar repurchase agreements	
		25.24 Subject to reverse dollar repurchase agreements	\$
		25.25 Placed under option agreements	\$
		25.26 Letter stock or securities restricted as to sale - excluding FHLB Capital Stock	\$
		25.27 FHLB Capital Stock	\$
		25.28 On deposit with states	\$
		25.29 On deposit with other regulatory bodies	\$
		25.30 Pledged as collateral - excluding collateral pledged t an FHLB	0
		25.31 Pledged as collateral to FHLB - including assets backing funding agreements	
		25.32 Other	

### 25.3 For category (25.26) provide the following:

	1 Nature of Restriction	2 Description	3 Amo	3 punt
26.1	Does the reporting entity have any hedging transactions reported on So	shedule DB?	Yes [	] No [ X ]
26.2	If yes, has a comprehensive description of the hedging program been r If no, attach a description with this statement.	nade available to the domiciliary state? Yes [	] No [	] N/A [ X
27.1	Were any preferred stocks or bonds owned as of December 31 of the c issuer, convertible into equity?		Yes [	] No [ X ]
27.2	If yes, state the amount thereof at December 31 of the current year		\$	
28.	Excluding items in Schedule E - Part 3 - Special Deposits, real estate, offices, vaults or safety deposit boxes, were all stocks, bonds and oth custodial agreement with a qualified bank or trust company in accorda Outsourcing of Critical Functions, Custodial or Safekeeping Agreement	er securities, owned throughout the current year held pursuant to a	Yes [ X	] No [ ]
28.01	For agreements that comply with the requirements of the NAIC Financi	al Condition Examiners Handbook, complete the following:		

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

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

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

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

28.03 Have there been any changes, including name changes, in the custodian(s) identified in 28.01 during the current year?..... ..... Yes [ ] No [ X ] 28.04 If yes, give full and complete information relating thereto:

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

## **GENERAL INTERROGATORIES**

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

1	2
Name of Firm or Individual	Affiliation
Barings LLC	Α

28.06 For those firms or individuals listed in the table for 28.05 with an affiliation code of "A" (affiliated) or "U" (unaffiliated), provide the information for the table below.

1	2	3	4	5
				Investment
				Management
Central Registration				Agreement
Depository Number	Name of Firm or Individual	Legal Entity Identifier (LEI)	Registered With	(IMA) Filed
106006	Barings LLC	5493005EMQYELJUS5W59	SEC	DS

29.1 Does the reporting entity have any diversified mutual funds reported in Schedule D, Part 2 (diversified according to the Securities and Exchange Commission (SEC) in the Investment Company Act of 1940 [Section 5(b)(1)])?

29.2 If yes, complete the following schedule:

1	2	3
		Book/Adjusted
CUSIP #	Name of Mutual Fund	Carrying Value
29.2999 - Total		

Yes [ ] No [ X ]

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

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

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

	1	2	3
			Excess of Statement
			over Fair Value (-), or
	Statement (Admitted)		Fair Value over
	Value	Fair Value	Statement (+)
30.1 Bonds			
30.2 Preferred stocks			
30.3 Totals	312,452,230	316, 186, 533	3,734,303

30.4 Describe the sources or methods utilized in determining the fair values:

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

 31.1
 Was the rate used to calculate fair value determined by a broker or custodian for any of the securities in Schedule D?
 Yes [ X ] No [ ]

 31.2
 If the answer to 31.1 is yes, does the reporting entity have a copy of the broker's or custodian's pricing policy (hard copy or electronic copy) for all brokers or custodians used as a pricing source?
 Yes [ X ] No [ ]

 31.3
 If the answer to 31.2 is no, describe the reporting entity's process for determining a reliable pricing source for purposes of disclosure of fair value for Schedule D:
 Yes [ X ] No [ ]

 32.1
 Have all the filing requirements of the Purposes and Procedures Manual of the NAIC Investment Analysis Office been followed?
 Yes [ X ] No [ ]

 32.2
 If no, list exceptions:
 Yes [ X ] No [ ]

## **GENERAL INTERROGATORIES**

33. By self-designating 5\*GI securities, the reporting entity is certifying the following elements of each self-designated 5\*GI security:

a. Documentation necessary to permit a full credit analysis of the security does not exist.

b. Issuer or obligor is current on all contracted interest and principal payments.

c. The insurer has an actual expectation of ultimate payment of all contracted interest and principal.

Has the reporting entity self-designated 5\*GI securities?

. Yes [ ] No [X]

...\$ ....

### OTHER

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

1	2
Name	Amount Paid
American Council of Life Insurers (ACLI)	
US Chamber of Commerce	3.875
	, .

35.1 Amount of payments for legal expenses, if any? ...

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

1	2
Name	Amount Paid
Sutherland Asbill & Brennan LLP	
Ropes & Gray	2,515
	,,

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

1	2
Name	Amount Paid

## **GENERAL INTERROGATORIES**

### PART 2 - LIFE INTERROGATORIES

1.1	Does the reporting entity have any direct Medicare Supplement Insurance in force?		
1.2	If yes, indicate premium earned on U.S. business only		
	What portion of Item (1.2) is not reported on the Medicare Supplement Insurance Experie		
1.3	1.31 Reason for excluding:		φ
1.4	Indicate amount of earned premium attributable to Canadian and/or Other Alien not inclu		\$
1.5			
1.5	Indicate total incurred claims on all Medicare Supplement insurance.		Þ
1.6	Individual policies:	Most current three years: 1.61 Total premium earned	\$
		1.62 Total incurred claims	
		1.63 Number of covered lives	
			_
		All years prior to most current three years 1.64 Total premium earned	
		1.65 Total incurred claims	
		1.66 Number of covered lives	
4 7	Oracia anticipat		
1.7	Group policies:	Most current three years: 1.71 Total premium earned	¢
		1.72 Total incurred claims	
		1.73 Number of covered lives	
		All years prior to most current three years	
		1.74 Total premium earned 1.75 Total incurred claims	
		1.76 Number of covered lives	
2.	Health Test:	4	
		1 2 Current Year Prior Year	
	2.1 Premium Numerator		
	2.2 Premium Denominator		
	2.3 Premium Ratio (2.1/2.2)		
	2.4 Reserve Denominator		
	2.6 Reserve Ratio (2.4/2.5)		
3.1	Does this reporting entity have Separate Accounts?		Yes [X] No [ ]
3.2	If yes, has a Separate Accounts Statement been filed with this Department?		[X] No [] N/A []
3.3	What portion of capital and surplus funds of the reporting entity covered by assets in the distributable from the Separate Accounts to the general account for use by the general a	Separate Accounts statement, is not currently account?	\$ 511.814
			······································
3.4	State the authority under which Separate Accounts are maintained:		
	Connecticut General Statutes, Section 33a-433 and 33a-459		
3.5	Was any of the reporting entity's Separate Accounts business reinsured as of December	31?	
3.6	Has the reporting entity assumed by reinsurance any Separate Accounts business as of	December 31?	Yes [ ] No [ X ]
3.7	If the reporting entity has assumed Separate Accounts business, how much, if any, reins Accounts reserve expense allowances is included as a negative amount in the liability for		
	(net)"?		
4.1	Are personnel or facilities of this reporting entity used by another entity or entities or are p	personnel or facilities of another entity or entities us	ed
4.1	by this reporting entity (except for activities such as administration of jointly underwritten	group contracts and joint mortality or morbidity	
	studies)?		Yes [X] No [ ]
4.2	Net reimbursement of such expenses between reporting entities:		
		4.21 Paid	
		4.22 Received	\$
5.1	Does the reporting entity write any guaranteed interest contracts?		Yes [ ] No [X]
0.1			
5.2	If yes, what amount pertaining to these lines is included in:		
		5.21 Page 3, Line 1	
e		5.22 Page 4, Line 1	\$
6.	FOR STOCK REPORTING ENTITIES ONLY:	5.22 Page 4, Line 1	\$
6. 6.1	FOR STOCK REPORTING ENTITIES ONLY: Total amount paid in by stockholders as surplus funds since organization of the reporting		
6.1	Total amount paid in by stockholders as surplus funds since organization of the reporting		
		entity:	\$
6.1	Total amount paid in by stockholders as surplus funds since organization of the reporting		\$

## **GENERAL INTERROGATORIES**

8.1	Reins bene	es the company reinsure any Workers' Compensation Carve-Out business defined as:							( ]
8.2	If yes	, has the reporting entity completed the Workers' Compensation C	Carve-Out Supplement to	the Annual Statement	?	Yes [	]	No [	]
8.3	lf 8.1	is yes, the amounts of earned premiums and claims incurred in th		0	0				
			1 Reinsurance Assumed	2 Reinsurance Ceded	3 Net Retained				
	8.31	Earned premium							
	8.32	Paid claims							
	8.33	Claim liability and reserve (beginning of year)							
	8.34	Claim liability and reserve (end of year)							
	8.35	Incurred claims							
8.4		surance assumed included amounts with attachment points below I for Column (1) are: Attachment Point <\$25,000 \$25,000 - 99,999		ution of the amounts rep 1 Earned Premium	2 Claim Liability and Reserve				
	8.43	\$100,000 - 249,999							
	8.44	\$250,000 - 999,999							
	8.45	\$1,000,000 or more							
8.5	What	portion of earned premium reported in 8.31, Column 1 was assun	ned from pools?			\$			
9. 9.1 9.2	clair Amou	eporting entities having sold annuities to another insurer where the mant (payee) as the result of the purchase of an annuity from the re unt of loss reserves established by these annuities during the curre he name and location of the insurance company purchasing the ar	eporting entity only: ent year:						
		1			2 Statement Va on Purchase D				
		P&C Insurance Company Ar			of Annuities (i.e., Present Va	alue)			
10.1	Do yo	ou act as a custodian for health savings accounts?				Yes [	]	No [ )	(]
10.2	If yes	, please provide the amount of custodial funds held as of the report	rting date.			\$			
10.3	Do yo	ou act as an administrator for health savings accounts?				Yes [	]	No [ )	( ]
10.4	If yes	, please provide the balance of funds administered as of the repor	ting date.			\$			

## **GENERAL INTERROGATORIES**

11.1 Are any of the captive affiliates reported on Schedule S, Part 3, authorized reinsurers? ....

11.2 If the answer to 11.1 is yes, please provide the following:

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

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

12. Provide the following for individual ordinary life insurance\* policies (U.S. business only) for the current year (prior to reinsurance assumed or ceded):

12.1 Direct Premium Written\$	
12.2 Total Incurred Claims\$	
12.3 Number of Covered Lives	

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

## **FIVE-YEAR HISTORICAL DATA**

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

	\$	000 omitted for amo		1 <b>ce</b>	4	5
		2017	2 2016	2015	4 2014	5 2013
	Life Insurance in Force					
	(Exhibit of Life Insurance)					
1.	Ordinary - whole life and endowment (Line 34, Col.					
		4,977,101	5,292,746	5,683,960	6,050,202	6,484,724
2.	Ordinary - term (Line 21, Col. 4, less Line 34, Col. 4)	3,922	4,109		4,429	4,214
3.	Credit life (Line 21, Col. 6)					, 
4.	Group, excluding FEGLI/SGLI (Line 21, Col. 9 less					
	Lines 43 & 44, Col. 4)		6,939,534	6,952,141	7 , 197 , 793	7,235,356
	Industrial (Line 21, Col. 2)					
6.	FEGLI/SGLI (Lines 43 & 44, Col. 4)					
	Total (Line 21, Col. 10)	11,925,817	12,236,389	12,640,284	13,252,424	13,724,293
7.1	Total in force for which VM-20 deterministic/stochastic reserves are calculated		xxx	XXX	xxx	XXX
	New Business Issued					
	(Exhibit of Life Insurance)					
8.	Ordinary - whole life and endowment (Line 34, Col.					
•	2)	6,863	2,237		3,239	4,157
9.	Ordinary - term (Line 2, Col. 4, less Line 34, Col. 2)					
10.	Credit life (Line 2, Col. 6)					
11.	Group (Line 2, Col. 9)					
12.	Industrial (Line 2, Col. 2)					
13.	Total (Line 2, Col. 10)	6,863	2,237	2,939		4,157
	Premium Income - Lines of Business					
	(Exhibit 1 - Part 1)					
	Industrial life (Line 20.4, Col. 2)					
	Ordinary-life insurance (Line 20.4, Col. 3)					
15.2	Ordinary-individual annuities (Line 20.4, Col. 4)					
16	Credit life (group and individual) (Line 20.4, Col. 5)					
	Group life insurance (Line 20.4, Col. 6)					
	Group annuities (Line 20.4, Col. 7)					
	A & H-group (Line 20.4, Col. 8)					
18.2	A & H-credit (group and individual) (Line 20.4, Col. 9)					
18.3	A & H-other (Line 20.4, Col. 10)					
	Aggregate of all other lines of business (Line					
	20.4,Col. 11)					
20.	Total	1,590,674	(105,853,696)	24,468,709	24,111,798	
	Balance Sheet (Pages 2 & 3)					
21.	Total admitted assets excluding Separate Accounts business (Page 2, Line 26, Col. 3)	405 972 024				
22.	Total liabilities excluding Separate Accounts					
22.	business (Page 3, Line 26)					
23.	Aggregate life reserves (Page 3, Line 1)					
23.1	Excess VM-20 deterministic/stochastic reserve over					
	NPR related to Line 7.1		XXX	XXX	XXX	XXX
24.	Aggregate A & H reserves (Page 3, Line 2)					
25.	Deposit-type contract funds (Page 3, Line 3)				, , , , , , , , , , , , , , , , , , , ,	6,841,263
26.	Asset valuation reserve (Page 3, Line 24.01)					
27.	Capital (Page 3, Lines 29 and 30)				2,500,200	2,500,200
28.	Surplus (Page 3, Line 37)				209, 193, 498	
20	Cash Flow (Page 5) Net Cash from Operations (Line 11)	(9,409,267)	79 725 201			
29.	Risk-Based Capital Analysis				10,403,901	20,000,000
30.	Total adjusted capital	300 376 389				
31.	Authorized control level risk - based capital					
01.	Percentage Distribution of Cash, Cash					
	Equivalents and Invested Assets					
	(Page 2, Col. 3) (Line No. /Page 2, Line 12, Col. 3)					
~~	x 100.0		ar 7			10.0
32.	Bonds (Line 1)					43.3
33.	Stocks (Lines 2.1 and 2.2) Mortgage loans on real estate(Lines 3.1 and 3.2)				1.2	1.4
34.					1.2	1.4
35. 36.	Real estate (Lines 4.1, 4.2 and 4.3) Cash, cash equivalents and short-term investments					
30.	(Line 5)					
37.	Contract loans (Line 6)					
38.	Derivatives (Page 2, Line 7)					
39.	Other invested assets (Line 8)					
40.	Receivables for securities (Line 9)					
41.	Securities lending reinvested collateral assets (Line					
	-,					
42.	Aggregate write-ins for invested assets (Line 11)					
43.	Cash, cash equivalents and invested assets (Line 12)	100.0	100.0	100.0	100.0	100.0
	, - ·=/				1	

	FIVE-YEAR HISTORICAL DATA									
		1 2017	2 2016	3 2015	4 2014	5 2013				
	Investments in Parent, Subsidiaries and									
44.										
45	Col. 1)	7,099,665	6,404,131	1,642,655	2,287,569	3,829,163				
45.	Line 18, Col. 1)									
46.	Affiliated common stocks (Schedule D Summary Line 24, Col. 1),									
47.	in Schedule DA Verification, Col. 5, Line 10)									
48. 49.	Affiliated mortgage loans on real estate									
49. 50.	Total of above Lines 44 to 49			1.642.655	2.287.569					
51.	Total Investment in Parent included in Lines 44 to			, ,						
	49 above									
52.	Total nonadmitted assets (Page 2, Line 28, Col. 2)				4,449,066	1, 152, 925				
53.	Total admitted assets (Page 2, Line 28, Col. 3)									
	Investment Data									
54.	Net investment income (Exhibit of Net Investment Income)	17,590,030	14,288,275	12,852,135	11,616,274	11,832,493				
55.	Realized capital gains (losses) (Page 4, Line 34, Column 1 )			(35,042)	160,945	(57,628				
56.	Unrealized capital gains (losses) (Page 4, Line 38, Column 1)	(41,250)	(19,222)							
57.	Total of above Lines 54, 55 and 56		. , ,							
58.	Benefits and Reserve Increases (Page 6) Total contract benefits - life (Lines 10, 11, 12, 13, 14 and 15 Col. 1, minus Lines 10, 11,12, 13, 14 and 15 Cols. 9, 10 and 11)	44 508 708	93 613 485	96 724 416	95 253 292	163 470 387				
59.	Total contract benefits - A & H (Lines 13 & 14, Cols.									
60	9, 10 & 11)									
60.	annuities (Line 19, Cols. 2 and 3 )	2,086,763	1,778,200	4,291,458	1,799,063	4,430,583				
61.	Increase in A & H reserves (Line 19, Cols. 9, 10 & 11)									
62.	Dividends to policyholders (Line 30, Col. 1)									
	Operating Percentages									
63.	Insurance expense percent (Page 6, Col. 1, Lines 21, 22 & 23, less Line 6)/(Page 6, Col. 1, Line 1 plus Exhibit 7, Col. 2, Line 2) x 100.0									
64.										
65.	A & H loss percent (Schedule H, Part 1, Lines 5 and 6, Col. 2)									
66.	A & H cost containment percent (Schedule H, Pt. 1, Line 4, Col. 2)									
67.	· · · · · · · · · · · · · · · · · · ·									
68.	A & H Claim Reserve Adequacy Incurred losses on prior years' claims - group health									
00.	(Schedule H, Part 3, Line 3.1 Col. 2)									
69.	Prior years' claim liability and reserve - group health (Schedule H, Part 3, Line 3.2 Col. 2)									
70.	Incurred losses on prior years' claims-health other than group (Schedule H, Part 3, Line 3.1 Col. 1 less Col. 2)									
71.										
	Net Gains From Operations After Federal Income Taxes by Lines of Business (Page 6, Line 33)									
72.	Industrial life (Col. 2)									
73.	Ordinary - life (Col. 3)									
74. 75	Ordinary - individual annuities (Col. 4)									
75. 76.	Ordinary-supplementary contracts (Col. 5)									
76. 77.	Group life (Col. 7)									
78.	Group annuities (Col. 8)									
79.	A & H-group (Col. 9)									
80.	A & H-credit (Col. 10)									
81. 82.	A & H-other (Col. 11) Aggregate of all other lines of business (Col. 12)									
	, iggi ugate of an other lines of busilless (OUI. 12)	14,803,294	20,234,783	20.692.555	15,640,719	22,353,827				



DIRECT BUSINESS IN THE STATE OF Grand Total 

DURING THE YEAR 2017

NAIC Group Code 0435		LIFE INSURANCE			NAIC Company Code 70416		
		1	2	3	4	5	
	DIRECT PREMIUMS		Credit Life (Group				
	AND ANNUITY CONSIDERATIONS	Ordinary	and Individual)	Group	Industrial	Total	
	considerations						
	-type contract funds		XXX		XXX		
4. Other c	onsiderations						
5. Totals (	Sum of Lines 1 to 4)	35,161,494		37,456		35, 198, 950	
DIF	RECT DIVIDENDS TO POLICYHOLDERS						
Life insurance:							
6.1 Paid in	cash or left on deposit						
6.2 Applied	to pay renewal premiums						
6.3 Applied	to provide paid-up additions or shorten the dowment or premium-paying period						
6.4 Other							
6.5 Totals (	Sum of Lines 6.1 to 6.4)						
Annuities:							
7.1 Paid in	cash or left on deposit						
7.2 Applied	to provide paid-up annuities						
	·····						
	Sum of Lines 7.1 to 7.3)						
	Totals (Lines 6.5 plus 7.4)						
D	DIRECT CLAIMS AND BENEFITS PAID						
9. Death b	penefits	.32.936.209		42.595.445			
		,,		,,			
11. Annuity	benefits					1.346.507	
12. Surrend	der values and withdrawals for life contracts	47,401,575				47,401,575	
13. Aggrega	ate write-ins for miscellaneous direct claims						
14. All othe	r benefits, except accident and health						
15. Totals		82,021,485		42,595,445		124,616,930	
DETAIL	_S OF WRITE-INS						
1301.							
1302.							
1303.							
1398. Summa	ary of Line 13 from overflow page						
	Lines 1301 thru 1303 plus 1398) (Line 13						
above	1 , (						

			C	redit Life							
	C	Ordinary	(Group and Individual)			Group		Industrial		Total	
DIRECT DEATH BENEFITS AND MATURED ENDOWMENTS	1	2	3 No. of Ind.Pols. & Gr.	4	5 No. of	6	7	8	9	10	
INCURRED	No.	Amount	Certifs.	Amount	Certifs.	Amount	No.	Amount	No.	Amount	
16. Unpaid December 31, prior year					4						
17. Incurred during current year					61	51,412,466					
Settled during current year: 18.1 By payment in full					55	42,595,444					
<ul><li>18.2 By payment on compromised claims</li><li>18.3 Totals paid</li></ul>					55	42,595,444					
18.4 Reduction by compromise 18.5 Amount rejected											
18.6 Total settlements	304	33.273.408			55	42,595,444				75,868,853	
19. Unpaid Dec. 31, current year (16+17-18.6)	24	4,271,958			10	12,401,110			34	16,673,068	
POLICY EXHIBIT 20. In force December 31, prior	00, 101	5 000 054 705			No. of Policies	0.000 504 000			00,400	40,000,000,000	
21. Issued during year	28,121	5,296,854,705		(a)	15	6,939,534,393				12,236,389,098	
<ol> <li>21. Issued during year</li> <li>22. Other changes to in force (Net)</li> </ol>										6,862,931 (317,434,973	
23. In force December 31 of current year	26,524	4,981,023,650		(a)	15	6,944,793,406			26,539	11,925,817,056	

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

### ACCIDENT AND HEALTH INSURANCE

ACCIDENT AND HEALTH INSURANCE									
	1	2	3	4	5				
			Dividends Paid Or						
		Direct Premiums	Credited On Direct		Direct Losses				
	Direct Premiums	Earned	Business	Direct Losses Paid	Incurred				
24. Group Policies (b)									
24.1 Federal Employees Health Benefits Plan									
premium (b)									
24.2 Credit (Group and Individual)									
24.3 Collectively renewable policies (b)									
24.4 Medicare Title XVIII exempt from state taxes or fees									
Other Individual Policies:									
25.1 Non-cancelable (b)									
25.2 Guaranteed renewable (b)									
25.3 Non-renewable for stated reasons only (b)									
25.4 Other accident only									
25.5 All other (b)									
25.6 Totals (sum of Lines 25.1 to 25.5)									
26. Totals (Lines 24 + 24.1 + 24.2 + 24.3 + 24.4 + 25.6)									
(b) For health business on indicated lines report: Number	of persons insured unde	r PPO managed care p	products	and number	r of persons				

insured under indemnity only products

## **EXHIBIT OF LIFE INSURANCE**

### (\$000 Omitted for Amounts of Life Insurance)

				(\$000 Omitt	ed for Amounts of						
		Indu	ustrial		nary	Credit Life (Grou			Group		10
		1	2	3	4	5 Number of Individual	6	Numt 7	per of	9	
						Policies and Group		,	0		Total
-		Number of Policies	Amount of Insurance	Number of Policies	Amount of Insurance	Certificates	Amount of Insurance	Policies	Certificates	Amount of Insurance	Amount of Insurance
1.	In force end of prior year				5,296,855			15		6,939,534	
2.											
3.	Reinsurance assumed										
4.	Revived during year			9							
5.	Increased during year (net)			2							
6.	Subtotals, Lines 2 to 5										
7.	Additions by dividends during year	XXX						XXX			
8.	Aggregate write-ins for increases		-								
9.								15	8.621	6,996,244	
•.	Deductions during year:								,	······································	, , , ,
10.				163				XXX	61	51,451	
11.	Maturity								••••••		
12.	Disability							XXX			
13.	-			5							
13.											
14.	Lapse										
	Conversion							XXX	XXX	XXX	
16.					1.440						1.440
17.											
18.	Reinsurance										
19.	00 0										
	Totals (Lines 10 to 19)			1,608					61		
	In force end of year (Line 9 minus Line 20)				4,981,024			15		6,944,793	
	Reinsurance ceded end of year	XXX		XXX	4,952,448	XXX		XXX	XXX	2,265,630	7,218,078
23.	Line 21 minus Line 22	XXX		XXX	28,575	XXX	(a)	XXX	XXX	4,679,163	4,707,739
	DETAILS OF WRITE-INS										
0801.											
0802.											
0803.											
0898.	Summary of remaining write-ins for Line 8 from overflow page.										
0899.											
1901.											
1901.											
1902.											
1903. 1998.	Summary of remaining write-ins for Line 19 from overflow										
1999.	page TOTALS (Lines 1901 thru 1903 plus 1998) (Line 19 above)										

(a) Group \$ ...... ; Individual \$ .....

## **EXHIBIT OF LIFE INSURANCE**

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

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

### ADDITIONAL INFORMATION ON ORDINARY INSURANCE

			uring Year in Line 2)	In Force End of Year (Included in Line 21)		
		1	2	3	4	
	Term Insurance Excluding Extended Term Insurance	Number of Policies	Amount of Insurance	Number of Policies	Amount of Insurance	
27.	Term policies - decreasing					
28.	Term policies - other					
29.	Other term insurance - decreasing	XXX		XXX		
30.	Other term insurance	XXX		XXX	600	
31.	Totals (Lines 27 to 30)					
	Reconciliation to Lines 2 and 21:					
32.	Term additions	XXX		XXX		
33.	Totals, extended term insurance	XXX	XXX	61		
34.	Totals, whole life and endowment		6,863	26,463	4,977,101	
35.	Totals (Lines 31 to 34)		6,863	26,524	4,981,024	

### CLASSIFICATION OF AMOUNT OF INSURANCE BY PARTICIPATING STATUS

		Issued Du (Included	uring Year in Line 2)	In Force End of Year (Included in Line 21)		
		1 Non-Participating	2 Participating	3 Non-Participating	4 Participating	
36	Industrial					
37.	Ordinary			4,981,024		
38.	Credit Life (Group and Individual)					
39.	Group			6,944,793		
40.	Totals (Lines 36 to 39)	6,863		11,925,817		

### ADDITIONAL INFORMATION ON CREDIT LIFE AND GROUP INSURANCE

		Cred	it Life	Group		
		1	2	3	4	
		Number of Individual				
		Policie and Gro				
		Centes	Junt of Insurance	Number of Certificates	Amount of Insurance	
41.	Amount of insurance included in Line 2 ceded to exponenties			XXX		
42.	Number in force end of year if the number under reactions is unted on a pro-rata basis				xxx	
43.	Federal Employees' Group Life Insurance include in Line					
44.	Servicemen's Group Life Insurance included in Line 21					
45.	Group Permanent Insurance included in Line 21					

### ADDITIONAL ACCIDENTAL DEATH BENEFITS

46. Amount of additional accidental death benefits in force end of year under ordinary policies 46, 194

### BASIS OF CALCULATION OF ORDINARY TERM INSURANCE

BASIC	BAGIO OF GREUDERTION OF OTBINAIT TETMI INSOTIANCE										
<ol> <li>State basis of calculation of (47.1) decreasing ter wife and children under Family, Parent and Chil 47.1</li> </ol>		cier .d ric	nily In Iers anlud	e, Mor ge ove.	tc., policies and riders and of (47.2) term insurance on						
47.1											

### POLICIES WITH DISABILITY PROVISIONS

			Industrial		Ordinary		Credit	Group		
		1	2	3	4	5	6	7	8	
								Number of		
		Number of		Number of		Number of		Certifi-	Amount of Ins	
	Disability Provisions	Policies	Amount of Insurance	Policies	Amount of Insurance		Amount of Insurance	cates	rance	
48.	Waiver of Premium			12,089	2,011,764					
	Disability Income									
50.	Extended Benefits			XXX	XXX					
51.	Other									
52.	Total		(a)	12,089	(a) 2,011,764		(a)		(a)	

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

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

		Ordi	nary	Group		
		1	2	3	4	
		Involving Life	Not Involving Life	Involving Life	Not Involving Life	
		Contingencies	Contingencies	Contingencies	Contingencies	
1.	In force end of prior year	10				
2.	Issued during year	5				
3.	Reinsurance assumed					
4.	Increased during year (net)					
5.	Total (Lines 1 to 4)		104			
	Deductions during year:					
6.	Decreased (net)		14			
7.	Reinsurance ceded	-				
8.	Totals (Lines 6 and 7)		14			
9.	In force end of year					
10.	Amount on deposit				(a)	
11.	Income now payable		14			
12.	Amount of income payable	(a) 114,509	(a) 202,101	(a)	(a)	

### ANNUITIES

		Ord	inary	Group		
		1	2	3	4	
		Immediate	Deferred	Contracts	Certificates	
1.	In force end of prior year					
2.	Issued during year					
3.	Reinsurance assumed					
4.	Increased during year (net)	-				
5.	Totals (Lines 1 to 4)	-	853			
	Deductions during year:					
6.	Decreased (net)					
7.	Reinsurance ceded	-				
8.	Totals (Lines 6 and 7)		76			
9.	In force end of year					
	Income now payable:					
10.	Amount of income payable	(a)	XXX	XXX	(a)	
	Deferred fully paid:					
11.	Account balance	XXX	(a)	XXX	(a)	
	Deferred not fully paid:					
12.	Account balance	XXX	(a) 44,324,255	XXX	(a)	

### ACCIDENT AND HEALTH INSURANCE

		Gro	oup	Cre	edit	Other		
		1	2	3	4	5	6	
		Certificates	Premiums in Force	Policies	Premiums in Force	Policies	Premiums in Force	
1.	In force end of prior year							
2.	Issued during year							
3.								
4.	Increased during year (net)		XXX		XXX		XXX	
5.	Totals (Lines 1 to 4)		XXX		XXX		XXX	
	Deductions during year:							
6.	Conversions				XXX	XXX		
7.	Decreased (net)							
8.	Reinsurance ceded		(XX)		XXX		XXX	
9.	Totals (Lines 6 to 8)		cxx				XXX	
10.	In force end of year		(a)		(a)		(a)	

### DEPOSIT FUNDS AND DIVIDEND ACCUMULATIONS

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

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

## ANNUAL STATEMENT FOR THE YEAR 2017 OF THE MML Bay State Life Insurance Company FORM FOR CALCULATING THE INTEREST MAINTENANCE RESERVE

### INTEREST MAINTENANCE RESERVE

		1 Amount
1.	Reserve as of December 31, Prior Year	
2.	Current year's realized pre-tax capital gains/(losses) of \$	(48,692)
3.	Adjustment for current year's liability gains/(losses) released from the reserve	
4.	Balance before reduction for amount transferred to Summary of Operations (Line 1 + Line 2 + Line 3)	240,902
5.	Current year's amortization released to Summary of Operations (Amortization, Line 1, Column 4)	128,972
6.	Reserve as of December 31, current year (Line 4 minus Line 5)	111,930

		AMORTIZATION			
	Year of Amortization	Reserve as of December 31, Prior Year	2 Current Year's Realized Capital Gains/(Losses) Transferred into the Reserve Net of Taxes	3 Adjustment for Current Year's Liability Gains/(Losses) Released From the Reserve	4 Balance Before Reduction for Current Year's Amortization (Cols. 1 + 2 + 3)
1.	2017		(7, 148)		
2.	2018		(13,171)		
3.	2019		(10,499)		40,404
4.	2020		(7,866)		
5.	2021		(5, 163)		
6.	2022		(2,350)		
7.	2023		(812)		
8.	2024				
9.	2025	(111)	(481)		
10.	2026		(302)		
11.	2027	(3,787)	(109)		(3,895
12.	2028	(4,692)	(17)		
13.	2029		(17)		
14.	2030		(18)		
15.	2031		(18)		
16.	2032	(2.922)	(19)		
17.	2033	(1,640)	(18)		
18.	2034		(14)		(264
19.	2035		(10)		
20.	2036		(6)		
21.	2037		(2)		
22.	2038		, ,		(21
23.	2039				
24.	2040				
25.	2041				
26.	2042				
20.	2043	(11)			
27.	2043	. ,			(0
-	2045				
29. 20					
30.	2046				
31.	2047 and Later	289,594	(48,692)		240,902

## **ASSET VALUATION RESERVE**

		Default Component			Equity Component		
	1 Other Than Mortgage Loans	2 Mortgage Loans	3 Total (Cols. 1 + 2)	4 Common Stock	5 Real Estate and Other Invested Assets	6 Total (Cols. 4 + 5)	7 Total Amount (Cols. 3 + 6)
1. Reserve as of December 31, prior year	4,976,472		4,997,496				4,997,496
2. Realized capital gains/(losses) net of taxes - General Account			(26,690)				(26,690
3. Realized capital gains/(losses) net of taxes - Separate Accounts			7,447				
4. Unrealized capital gains/(losses) net of deferred taxes - General Account			(42,813)				(42,813
5. Unrealized capital gains/(losses) net of deferred taxes - Separate Accounts							
6. Capital gains credited/(losses charged) to contract benefits, payments or reserves							
7. Basic contribution	901,683	5,490	907, 173				907,173
8. Accumulated balances (Lines 1 through 5 - 6 + 7)			5,842,613				5,842,613
9. Maximum reserve			5,070,023				5,070,023
10. Reserve objective	3,586,909	11,045	3,597,954				3,597,954
11. 20% of (Line 10 - Line 8)	(445,838)	(3,094)	(448,932)				(448,932
12. Balance before transfers (Lines 8 + 11)			5,393,681				5,393,681
13. Transfers							
14. Voluntary contribution							
15. Adjustment down to maximum/up to zero	(318,483)	(5,175)	(323,658)				(323,658
16. Reserve as of December 31, current year (Lines 12 + 13 + 14 + 15)	5,051,778	18,245	5,070,023				5,070,023

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

			1	2	3	4	Basic C	Contribution	Reserv	ve Objective	Maximur	n Reserve
						Balance for	5	6	7	8	9	10
Line	NAIC			Reclassify		AVR Reserve						
Num-	Desig- nation	Description	Book/Adjusted Carrying Value	Related Party Encumbrances	Add Third Party Encumbrances	Calculations	Fastar	Amount	E t	Amount	Frates	Amount
ber	nation		Carrying value	Encumprances	Encumbrances	(Cols. 1 + 2 + 3)	Factor	(Cols.4 x 5)	Factor	(Cols. 4 x 7)	Factor	(Cols. 4 x 9)
		LONG-TERM BONDS	00 544 450	2004	2004	00 544 450	0,0000				0.0000	
1.		Exempt Obligations		XXX				74.678		429.399		FC0 000
2.		Highest Quality		XXX	XXX				0.0023			
3.		High Quality		XXX	XXX		0.0019		0.0058			
4.		Medium Quality	1,742,543	XXX	XXX	1,742,543	0.0093		0.0230			
5.		Low Quality	2,699,406	XXX	XXX	2,699,406	0.0213		0.0530		0.0750	
6.		Lower Quality		XXX	XXX		0.0432	9, 141	0.1100		0.1700	
7.	6	In or Near Default		XXX	XXX		0.000		0.2000		0.2000	<u>9</u> 0,491
8.		Total Unrated Multi-class Securities Acquired by Conversion		XXX	XXX		XXX		XXX		XXX	
9.		Total Long-Term Bonds (Sum of Lines 1 through 8)	312,452,230	XXX	XXX	312,452,230	XXX	311,630	XXX	1,196,748	XXX	1,678,236
		PREFERRED STOCK										
10.	1	Highest Quality		XXX	XXX		0.0004		0.0023		0.0030	
11.	2	High Quality		XXX	XXX		0.0019		0.0058		0.0090	
12.	3	Medium Quality		XXX			0.0093		0.0230		0.0340	
13.	4	Low Quality		XXX	XXX		0.0213		0.0530		0.0750	
14.	5	Lower Quality		XXX	XXX		.0.0432				0.1700	
15.		In or Near Default		XXX	XXX		0.0000		0.2000		0.2000	
16.		Affiliated Life with AVR		XXX	XXX		0.0000		0.0000		0.0000	
17.		Total Preferred Stocks (Sum of Lines 10 through 16)		XXX	XXX		XXX		XXX		XXX	
		SHORT - TERM BONDS		7000	7000		7000		,,,,,		7001	
18.		Exempt Obligations		XXX	XXX		0.0000		0.0000		0.0000	
19.	1	Highest Quality		XXX	XXX		0.0004		0.0023		0.0030	
20.	2	High Quality	999,957	XXX	XXX	999.957	0.0019	1.900	0.0058	5.800	0.0090	9.000
21.	3	Medium Quality		XXX	XXX		0.0093		0.0230		0.0340	
22.		Low Quality		XXX	XXX		0.0213		0.0530		0.0750	
23.		Lower Quality			XXX		0.0432		0.1100		0.1700	
23.		In or Near Default			XXX		0.0000		0.2000		0.2000	
24.	0	Total Short - Term Bonds (Sum of Lines 18 through 24)	999,957	XXX	XXX	999,957	XXX	1,900	XXX	5,800	XXX	9.000
23.		DERIVATIVE INSTRUMENTS	333,331	~~~	~~~	333,331	~~~	1,300	~~~	5,000	~~~	3,000
26.				XXX	xxx		0.0004		0.0023		0.0030	
26. 27.			••••••		XXX XXX		0.0004		0.0023		0.0030	
		Highest Quality				-	0.0019		0.0023		0.0030	
28.		High Quality		XXX	XXX		0.0019		0.0230		0.0340	
29.		Medium Quality		XXX	XXX		0.0213		0.0230		0.0340	
30.		Low Quality		XXX	XXX	-						
31.		Lower Quality		XXX	XXX				0.1100		0.1700	
32.	6	In or Near Default		XXX	XXX		0.0000		0.2000		0.2000	
33.		Total Derivative Instruments		XXX	XXX		XXX		XXX		XXX	
34.		Total (Lines 9 + 17 + 25 + 33)	313,452,187	XXX	XXX	313,452,187	XXX	313,530	XXX	1,202,547	XXX	1,687,235

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

			1	2	3	4	Basic C	Contribution	Reserv	ve Objective	Maximu	m Reserve
Line Num- ber	NAIC Desig- nation	Description	Book/Adjusted Carrying Value	Reclassify Related Party Encumbrances	Add Third Party Encumbrances	Balance for AVR Reserve Calculations (Cols. 1 + 2 + 3)	5 Factor	6 Amount (Cols.4 x 5)	7 Factor	8 Amount (Cols. 4 x 7)	9 Factor	10 Amount (Cols. 4 x 9)
		MORTGAGE LOANS										()
		In Good Standing:										
35.		Farm Mortgages - CM1 - Highest Quality			XXX							
36.		Farm Mortgages - CM2 - High Quality			XXX		0.0035		<u>0.0100</u>		0.0130	
37.		Farm Mortgages - CM3 - Medium Quality			XXX		.0.0060		0.0175			
38.		Farm Mortgages - CM4 - Low Medium Quality					0.0105		0.0300		0.0375	
39.		Farm Mortgages - CM5 - Low Quality			XXX		0.0160		0.0425		0.0550	
40.		Residential Mortgages - Insured or Guaranteed	3,023,708		XXX	3,023,708			0.0006	1,814	0.0010	
41.		Residential Mortgages - All Other			XXX		0.0013		0.0030		0.0040	
42.		Commercial Mortgages - Insured or Guaranteed			XXX		0.0003		0.0006		0.0010	
43.		Commercial Mortgages - All Other - CM1 - Highest Quality			XXX				0.0050		0.0065	
44.		Commercial Mortgages - All Other - CM2 - High Quality			XXX		0.0035		0.0100		0.0130	
45.		Commercial Mortgages - All Other - CM3 - Medium Quality			XXX		0.0060		0.0175		0.0225	
46.		Commercial Mortgages - All Other - CM4 - Low Medium Quality			xxx		0.0105				0.0375	
47.		Commercial Mortgages - All Other - CM5 - Low Quality			XXX		0.0160		.0.0425		0.0550	
		Overdue, Not in Process:										
48.		Farm Mortgages			XXX		0.0420		0.0760		0.1200	
49.		Residential Mortgages - Insured or Guaranteed			XXX		0.0005		0.0012		0.0020	
50.		Residential Mortgages - All Other			XXX		0.0025		0.0058		0.0090	
51.		Commercial Mortgages - Insured or Guaranteed			XXX		0.0005		0.0012		0.0020	
52.		Commercial Mortgages - All Other					.0.0420		0.0760		0.1200	
		In Process of Foreclosure:										
53.		Farm Mortgages					.0.000		0.1700		0.1700	
54.		Residential Mortgages - Insured or Guaranteed					.0.0000		0.0040		0.0040	
55.		Residential Mortgages - All Other							0.0130		0.0130	
56.		Commercial Mortgages - Insured or Guaranteed			XXX				0.0040		0.0040	
57.		Commercial Mortgages - All Other			XXX		0.0000		0.1700		0.1700	
58.		Total Schedule B Mortgages (Sum of Lines 35 through 57)	3,187,846		XXX	3,187,846	XXX	1,120	XXX	2,307	XXX	3,680
59.		Schedule DA Mortgages			XXX		0.0030		0.0100		0.0130	
60.		Total Mortgage Loans on Real Estate (Lines 58 + 59)	3, 187, 846		XXX	3,187,846	XXX	1,120	XXX	2,307	XXX	3,680

Asset Valuation Reserve - Equity Component

## ΝΟΝΕ

Asset Valuation Reserve Replications (Synthetic) Assets **NONE** 

Schedule F - Claims

Schedule H - Part 1 - Analysis of Underwriting Operations **NONE** 

Schedule H - Part 2 - Reserves and Liabilities **NONE** 

Schedule H - Part 3 - Test of Prior Year's Claim Reserves and Liabilities **NONE** 

Schedule H - Part 4 - Reinsurance

## ΝΟΝΕ

Schedule H - Part 5 - Health Claims **NONE** 

Schedule S - Part 1 - Section 1 **NONE** 

Schedule S - Part 1 - Section 2 NONE

32,33,34, 35, 36, 37, 38, 39, 40, 41

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

1	2	3	4	5	6	7
NAIC						
Company	ID	Effective				
Code	Number	Date	Name of Company	Jurisdiction	Paid Losses	Unpaid Losses
65935	04-1590850	09/07/1983	Massachusetts Mutual Life Insurance Company	MA		
65935	04-1590850	01/01/2000	Massachusetts Mutual Life Insurance Company	MA		
		y - U.S. Affiliat			2,867,661	10,272,635
		Annuity - U.S. A			2,867,661	10,272,635
		Annuity - Non-L				
		Annuity - Affilia			2,867,661	10,272,635
86258	13-2572994		General Re Life Corp. (CO81)	CT		
65676	35-0472300	02/08/1999	Lincoln National Life Ins. Co. (LN81)	IN		
66346	58-0828824	02/08/1999	Munich American Reassurance Co (MU81)	GA		
66346	58-0828824	01/01/1999	Munich American Reassurance Co (MU81) Munich American Reassurance Co (MU81) RGA Reinsurance Co. (AZ82)	GA		
93572	43-1235868	01/01/1999	RGA Reinsurance Co. (AZ82)	MO		
93572	43-1235868	02/08/1999	RGA Reinsurance Co. (GA81) Swiss Re Life & Health America Inc. (SR16)	MO		
82627	06-0839705	12/31/2016	Swiss Re Life & Health America Inc. (SR16)	MO		1,710,367
		y - U.S. Non-A			1,506,960	4,050,077
		Annuity - Non-A	ffiliates		1,506,960	4,050,077
	otal Life and A				4,374,621	14,322,712
1499999. T	otal Accident	and Health - U	.S. Affiliates			
1799999. T	otal Accident	and Health - N	on-U.S. Affiliates			
1899999. T	otal Accident	and Health - A	ifiliates			
2199999. T	otal Accident	and Health - N	on-Affiliates			
2299999. T	otal Accident	and Health				
2399999. T	otal U.S. (Sur	4,374,621	14,322,712			
2499999. T	otal Non-U.S.					
9999999 To	otals - Life, An	inuity and Accie	dent and Health		4,374,621	14,322,712

## **SCHEDULE S - PART 3 - SECTION 1**

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

		Reinsu	rance Ceded Life Insurance, Annuities, Deposit Funds	and Other Lia	bilities Without	Life or Disabil	ity Contingencies,	and Related Ber	nefits Listed by Re	einsuring Compa	any as of Decem	ber 31, Current	Year	
1	2	3	4	5	6	7	8	Reserve Credit Taken 11		11	Outstanding Surplus Relief		14	15
				Domi-				9	10		12	13		
NAIC				ciliary	Type of	Type of		-				-	Modified	Funds Withheld
Company	ID	Effective		Juris-	Reinsurance	Business	Amount in Force						Coinsurance	Under
Code	Number	Date	Name of Company	diction	Ceded	Ceded	at End of Year	Current Year	Prior Year	Premiums	Current Year	Prior Year	Reserve	Coinsurance
	04-1590850		Massachusetts Mutual Life Insurance Co.	MA	YBT/1	0					Ganonit roal	i noi i oui	11000110	Combaranoo
65935			Massachusetts Mutual Life Insurance Co.	MA		OL.								
			zed U.S. Affiliates - Other			VL	517.339.613	5.728.758	5,960,645	6.450.302				
			uthorized U.S. Affiliates				517,339,613	5,728,758	5,960,645	6,450,302				
			uthorized Non-U.S. Affiliates				517,555,015	5,720,750	3,300,043	0,400,002				
			uthorized Affiliates				E17 000 010	5,728,758	5,960,645	6,450,302				
				lui		0	517,339,613							
80659		03/01/1996	Canada Life Assurance Co. (CR57)	MI CT	YRT/G	UL		2,480 1.957,729						
			General Re Life Corp. (CO81)		YRT/1	UL			1,991,931	1,219,113				
65676			Lincoln National Life Ins. Co. (LN16)	IN	YRT/G	0L								
65676			Lincoln National Life Ins. Co. (LN81)	IN		0L		2,971,914		1,826,936 505				
			Munich American Reassurance (CA48)	GA	YRT/G YRT/I	UL								
66346		.02/08/1999 .01/01/1999	Munich American Reassurance (MU81) Munich American Reassurance (MU82)	GA GA		UL		4,947,163 1,746,218		2,827,869				
				GA		0L								
93572	43-1235868 43-1235868		RGA Reinsurance Co. (AZ51) RGA Reinsurance Co. (AZ82)	MO	YRT/G	UL		2,767		1,928				
93572 	43-1235868		RGA Reinsurance Co. (AZ82) RGA Reinsurance Co. (GA81)	MO	YRT/1 YRT/1	UL		2,097,979 2,971,914		1,660,414 1,799,030				
			Security Life of Denver Ins. Co. (SD46)	MU		UL		2,971,914						
						UL		0,424	0, 143		31,546,275	.34,663,630	124,367,897	
82627			Swiss Re Life & Health America (SR16V)	MO	MCO/I	UL	2,308,484,269	40.000	10.010					
			Swiss Re Life & Health America (SR59)	MU	YRT/G	UL						04 000 000	404 007 007	
			zed U.S. Non-Affiliates				4,445,710,064	16,729,704	17,122,837	28,072,932	31,546,275	34,663,630	124,367,897	
			uthorized Non-Affiliates				4,445,710,064	16,729,704	17,122,837	28,072,932	31,546,275	34,663,630	124,367,897	
	Total General						4,963,049,677	22,458,462	23,083,482	34,523,234	31,546,275	34,663,630	124,367,897	
			nauthorized U.S. Affiliates											
			nauthorized Non-U.S. Affiliates											
1899999.	Total General	Account - U	nauthorized Affiliates											
2199999.	Total General	Account - U	nauthorized Non-Affiliates											
2299999.	Total General	Account Un	authorized											
2599999.	Total General	Account - C	ertified U.S. Affiliates											
			ertified Non-U.S. Affiliates											
			ertified Affiliates											
			ertified Non-Affiliates											
	Total General													
			thorized, Unauthorized and Certified				4,963,049,677	22,458,462	23,083,482	34,523,234	31,546,275	34,663,630	124,367,897	
				MA	MCO/G	OL	4,963,049,677	22,408,402	23,083,482		31, 340, 273	34,003,030	1, 101, 028, 767	
			Massachusetts Mutual Life Insurance Co	MA	MCU/ G	UL				1,110,401				
			prized U.S. Affiliates - Other				2,255,028,760			1,110,401			1,101,028,767	
			Authorized U.S. Affiliates				2,255,028,760			1,110,401			1,101,028,767	
			Authorized Non-U.S. Affiliates											
			Authorized Affiliates			1	2,255,028,760			1,110,401			1,101,028,767	ļ
			Swiss Re Life & Health America (SR16V)	MO	MCO/I	0L							759, 121,008	
			prized U.S. Non-Affiliates										759,121,008	
44999999.	Total Separate	e Accounts -	Authorized Non-Affiliates										759,121,008	
4599999.	Total Separate	e Accounts A	Authorized				2,255,028,760			1,110,401			1,860,149,775	
4899999	Total Separate	e Accounts -	Unauthorized U.S. Affiliates											
			Unauthorized Non-U.S. Affiliates								İ			
			Unauthorized Affiliates											1
			Unauthorized Non-Affiliates											
	Total Separate													
														<u> </u>
			Certified U.S. Affiliates											
			Certified Non-U.S. Affiliates											
			Certified Affiliates											
			Certified Non-Affiliates											
	Total Separate													
6899999.	Total Separate	e Accounts A	Authorized, Unauthorized and Certified				2,255,028,760			1,110,401			1,860,149,775	
									1					

## **SCHEDULE S - PART 3 - SECTION 1**

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

							·) · · · · · · · · · · · · · · · · · ·		<i>,</i>	emeaning eempa	1			
1	2	3	4	5	6	7	8	Reserve Credit Taken		11	Outstanding Surplus Reli		14	15
				Domi-				9	10		12	13		
NAIC				ciliary	Type of	Type of							Modified	Funds Withheld
Company	ID	Effective		Juris-	Reinsurance	Business	Amount in Force						Coinsurance	Under
Code	Number	Date	Name of Company	diction	Ceded	Ceded	at End of Year	Current Year	Prior Year	Premiums	Current Year	Prior Year	Reserve	Coinsurance
6999999.	Total U.S. (Su	um of 039999	9, 0899999, 1499999, 1999999, 2599999, 3099999, 3799999, 4299	999, 48999	99, 5399999, 599	9999 and								
	6499999)						7,218,078,437	22,458,462	23,083,482	35,633,635	31,546,275	34,663,630	1,984,517,672	
7099999.	7099999. Total Non-U.S. (Sum of 0699999, 0999999, 1799999, 2099999, 2899999, 3199999, 4099999, 4399999, 5199999, 5499999, 6299999 and													
	6599999)													
9999999 -	Totals						7,218,078,437	22,458,462	23,083,482	35,633,635	31,546,275	34,663,630	1,984,517,672	

Schedule S - Part 3 - Section 2 **NONE** 

Schedule S - Part 4

Schedule S - Part 4 - Bank Footnote

Schedule S - Part 5

Schedule S - Part 5 - Bank Footnote

### **SCHEDULE S - PART 6** Five Year Exhibit of Reinsurance Ceded Business

	-		Omitted)	-		-
		1 2017	2 2016	3 2015	4 2014	5 2013
	A. OPERATIONS ITEMS					
1.	Premiums and annuity considerations for life and accident and health contracts					17,451
2.	Commissions and reinsurance expense allowances					
3.	Contract claims					
4.	Surrender benefits and withdrawals for life contracts	43,051				
5.	Dividends to policyholders					
6.	Reserve adjustments on reinsurance ceded	(70,296)		(15,069)	(12,815)	(10,107)
7.	Increase in aggregate reserve for life and accident and health contracts		(384)	41	(543)	(1,317)
	B. BALANCE SHEET ITEMS					
8.	Premiums and annuity considerations for life and accident and health contracts deferred and uncollected		611			
9.	Aggregate reserves for life and accident and health contracts					
10.	Liability for deposit-type contracts					
11.	Contract claims unpaid				4,901	7,379
12.	Amounts recoverable on reinsurance	4,375				
13.	Experience rating refunds due or unpaid		1,564	1,572		2,757
14.	Policyholders' dividends (not included in Line 10)					
15.	Commissions and reinsurance expense allowances due	14,776				
16.	Unauthorized reinsurance offset					
17.	Offset for reinsurance with Certified Reinsurers					
	C. UNAUTHORIZED REINSURANCE (DEPOSITS BY AND FUNDS WITHHELD FROM)					
18.	Funds deposited by and withheld from (F)					
19.	Letters of credit (L)					
20.	Trust agreements (T)					
21.	Other (O)					
	D. REINSURANCE WITH CERTIFIED REINSURERS (DEPOSITS BY AND FUNDS WITHHELD FROM)					
22.	Multiple Beneficiary Trust					
23.	Funds deposited by and withheld from (F)					
24.	Letters of credit (L)					
25.	Trust agreements (T)					
26.	Other (O)					

# SCHEDULE S - PART 7

	SCHEDULE 5 - PA Restatement of Balance Sheet to Identify Net Credit			
		As Reported (net of ceded)	2 Restatement Adjustments	3 Restated (gross of ceded)
	ASSETS (Page 2, Col. 3)			
1.	Cash and invested assets (Line 12)			465,272,118
2.	Reinsurance (Line 16)		(23,784,762)	
3.	Premiums and considerations (Line 15)	(2,877,200)	2,955,583	
4.	Net credit for ceded reinsurance			
5.	All other admitted assets (balance)			9,692,354
6.	Total assets excluding Separate Accounts (Line 26)			
7.	Separate Account assets (Line 27)	4,464,676,157		4,464,676,157
8.	Total assets (Line 28)	4,960,548,191	27,726,065	4,988,274,256
	LIABILITIES, CAPITAL AND SURPLUS (Page 3)			
9.	Contract reserves (Lines 1 and 2)			
10.	Liability for deposit-type contracts (Line 3)			
11.	Claim reserves (Line 4)			
12.	Policyholder dividends/reserves (Lines 5 through 7)			
13.	Premium & annuity considerations received in advance (Line 8)			
14.	Other contract liabilities (Line 9)			
15.	Reinsurance in unauthorized companies (Line 24.02 minus inset amount)			
16.	Funds held under reinsurance treaties with unauthorized reinsurers (Line 24.03 minus inset amount)			
17.	Reinsurance with Certified Reinsurers (Line 24.02 inset amount)			
18.	Funds held under reinsurance treaties with Certified Reinsurers (Line 24.03 inset amount)			
19.	All other liabilities (balance)	21,227,712	28,428	21,256,140
20.	Total liabilities excluding Separate Accounts (Line 26)			
21.	Separate Account liabilities (Line 27)	4,464,676,157		4,464,676,157
22.	Total liabilities (Line 28)			4,692,967,888
23.	Capital & surplus (Line 38)	295,306,367	XXX	295,306,367
24.	Total liabilities, capital & surplus (Line 39)	4,960,548,190	27,726,065	4,988,274,255
	NET CREDIT FOR CEDED REINSURANCE			
25.	Contract reserves			
26.	Claim reserves			
27.	Policyholder dividends/reserves			
28.	Premium & annuity considerations received in advance			
29.	Liability for deposit-type contracts			
30.	Other contract liabilities			
31.	Reinsurance ceded assets			
32.	Other ceded reinsurance recoverables			
33.	Total ceded reinsurance recoverables			
34.	Premiums and considerations			
35.	Reinsurance in unauthorized companies			
36.	Funds held under reinsurance treaties with unauthorized reinsurers			
30. 37.	Reinsurance with Certified Reinsurers			
38.	Funds held under reinsurance treaties with Certified Reinsurers			
39.	Other ceded reinsurance payables/offsets	(00, (00))		
39. 40.	Total ceded reinsurance payable/offsets			
		48,555,244		
41.	Total net credit for ceded reinsurance	40,000,244		

### ANNUAL STATEMENT FOR THE YEAR 2017 OF THE MML Bay State Life Insurance Company **SCHEDULE T - PREMIUMS AND ANNUITY CONSIDERATIONS**

r		Al	located by State	es and Territorie	es				
		1	Life Contracts		Direct Bus	iness Only 5	6	7	
			2	3	Accident and Health Insurance Premiums,	Э		1	
	States, Etc.	Active Status	Life Insurance Premiums	Annuity Considerations	Including Policy, Membership and Other Fees	Other Considerations	Total Columns 2 through 5	Deposit-Type Contracts	
1. 2.	AlabamaAL Alaska	L							
2. 3.	Arizona AZ	LL							
4.	Arkansas AB	L							
5.	California CA	Ĺ	4,090,898				4,210,898		
6.	Colorado CO	L		, ,					
7.	Connecticut CT	L							
8.	Delaware DE	Ł							
9. 10	District of Columbia DC	L							
10. 11.	Florida	LL.	2, 140,585 628,081				2,140,585 628,081		
12.	Hawaii	 I							
13.	Idaho ID	L.							
14.	Illinois IL	L	1,256,646				1,256,646		
15.	Indiana IN	L	611,354				611,354		
16.	lowa IA	F		1,800					
17.	Kansas KS								
18. 19.	Kentucky	L							
20.	Maine ME	Þ							
20.	Maryland	<b>-</b>	1,072,857	1.260			1,074,117		
22.	Massachusetts	L							
23.	Michigan MI	L	1,686,623				1,697,273		
24.	Minnesota MN	L							
25.	Mississippi MS	L							
26.	Missouri MO	L							
27. 28.	Montana MT Nebraska ME	LL.		.8.300					
28. 29.	Nevada NV	۲- ا		0,300					
30.	New Hampshire NH	L							
31.	New Jersey NJ	L	1,454,434				1,454,434		
32.	New Mexico NM	L							
33.	New York	N							
34.	North Carolina	Ļ	1, 122, 397				1, 122, 397		
35. 36	North DakotaND	Ļ	6,751	00 000			6,751		
36. 37.	Ohio OH Oklahoma OK	LLL.	1,307,813 				1,330,622 		
37. 38.	Oregon OR	I							
39.	Pennsylvania PA	 	2,051,200				2,051,200		
40.	Rhode Island	F							
41.	South Carolina	L					675,412		
42.	South Dakota SD	L	40,528				40,528		
43.	Tennessee TN	<u> </u>							
44.	Texas TX	<u> </u>	2,839,475				2,839,475		
45. 46.	Utah UT Vermont VT	L		1.200					
46. 47.	Vermont VT Virginia VA	L		1,200					
47.	Washington	⊾ 							
49.	West Virginia	L							
50.	Wisconsin WI	L							
51.	Wyoming	L	23,608				23,608		
52.	American Samoa AS	N							
53.	Guam GU	N.							
54. 55.	Puerto Rico PR U.S. Virgin Islands VI	NN N							
55. 56.	Northern Mariana Islands MP	NN							
57.	Canada CAN	N.							
58.	Aggregate Other Alien OT	XXX							
59.	Subtotal	(a)50							
90.	Reporting entity contributions for employee benefits								
91.	plans Dividends or refunds applied to purchase paid-up	XXX							
01.	additions and annuities	XXX							
92.	Dividends or refunds applied to shorten endowment	1004							
93.	or premium paying period Premium or annuity considerations waived under	XXX						L	
33.	disability or other contract provisions	xxx							
94.	Aggregate or other amounts not allocable by State	XXX	· · · · · · · · · · · · · · · · · · ·						
95.	Totals (Direct Business)	XXX							
96.	Plus reinsurance assumed	XXX	AF 040 00				AF FAA 11-		
97 98.	Totals (All Business) Less reinsurance ceded	XXX	35,343,034 33,695,348						
98. 99.	Totals (All Business) less Reinsurance Ceded	XXX XXX		193, 111	(b)				
	DETAILS OF WRITE-INS	~~^	1,047,000	130,111	(0)		1,040,797		
58001.	ZZZ Other Alien	XXX							
58002.									
58003.		XXX							
58998.	Summary of remaining write-ins for Line 58 from								
58000	overflow page Totals (Lines 58001 through 58003 plus	XXX							
555555.	58998)(Line 58 above)	XXX	66,706				66,706		
9401.	······································	XXX	, -				, -		
9402.		XXX							
9403.		XXX							
9498.	Summary of remaining write-ins for Line 94 from overflow page	xxx							
9499.	overflow page Totals (Lines 9401 through 9403 plus 9498)(Line								
	94 above)	XXX							
(L) Licon	sed or Chartered - Licensed Insurance Carrier or Dor	ninilad DDC: (D	Desistand Nan	dominiad DDCov (	O) Ovalified Ovali	find or Approdited [	Deineurer: (E) Eligib	la Departing	

 94 above)
 XXX
 Image: Construct of the state of t

#### SCHEDULE T - PART 2

#### **INTERSTATE COMPACT - EXHIBIT OF PREMIUMS WRITTEN**

Allocated by States and Territories

		Allocated by States and Territories Direct Business Only									
		1 Life	2 Annuities	3 Disability Income	4 Long-Term Care	5 Denesit Turc	6				
	States, Etc.	(Group and Individual)	(Group and Individual)	(Group and Individual)	(Group and Individual)	Deposit-Type Contracts	Totals				
1.	Alabama AL										
2.	Alaska AK										
3.	Arizona AZ										
4.	Arkansas AR						71,758				
5.	California CA						4,210,898				
6.	Colorado CC										
7.	Connecticut CT	658,701									
8.	Delaware DE										
9.	District of Columbia DC	· · · · ·									
10.	Florida FL	2, 140, 585					2,140,585				
11.	Georgia GA	628,081					628,081				
12.	Hawaii HI										
13. 14.	Idaho ID Illinois IL	1,256,646					1.256.646				
14.	Indiana IN										
15. 16.	Iowa IA		1.800								
16.	Kansas KS										
17.	Kentucky										
19.	Louisiana LA					[					
20.	Maine ME	,									
21.	Maryland MD						1,074,117				
22.	Massachusetts MA		·								
23.	Michigan MI	1,686,623					1,697,273				
24.	Minnesota MN										
25.	Mississippi MS										
26.	Missouri MC										
27.	Montana MT										
28.	Nebraska NE		8,300								
29.	Nevada NV										
30.	New Hampshire NH										
31.	New Jersey NJ	1,454,434					1,454,434				
32.	New Mexico NN						101,235				
33.	New York NY										
34.	North Carolina NC						1, 122,397				
35.	North Dakota ND						6,751				
36.	Ohio OH						1,330,622				
37.	Oklahoma OK										
38.	Oregon OR										
39.	Pennsylvania PA	2,051,200					2,051,200				
40.	Rhode Island RI	,					149,690 675,412				
41. 42.	South Carolina SC South Dakota SD	·									
42. 43.	South Dakota SD Tennessee TN		27.092								
43. 44.	Texas	,					2,839,475				
44. 45.	Utah UT	2,839,473					2,839,473				
45. 46.	Vermont										
40. 47.	Virginia						1,484,521				
48.	Washington										
49.	West Virginia W\										
50.	Wisconsin WI										
51.	Wyoming WY										
52.	American Samoa AS										
53.	Guam GU										
54.	Puerto Rico PR										
55.	U.S. Virgin Islands VI										
56.	Northern Mariana Islands MP					-					
57.	Canada CA	N									
58.	Aggregate Other Alien OT										
59.	Total	35,005,839	193,111				35,198,950				

PART 1 – ORGANIZATIONAL CHART

The following entities are general partner level or above of Massachusetts Mutual Life Insuran	ce Company (Paren	t)	5935 Massachusetts 6432 Connecticut Delaware
	Federal Tax ID	NAIC Co Code	State of Domicile
MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY Direct & Indirect Owned Subsidiaries:	04-1590850	65935	Massachusetts
C.M. Life Insurance Company	06-1041383	93432	Connecticut
MML Bay State Life Insurance Company	43-0581430	70416	Connecticut
CML Mezzanine Investor, LLC	06-1041383		Delaware
CML Mezzanine Investor L, LLC	06-1041383		Delaware
CML Mezzanine Investor III, LLC	06-1041383		Delaware
CML Special Situations Investor LLC	None		Delaware
MML Mezzanine Investor L, LLC	04-1590850		Delaware
Berkshire Way LLC	04-1590850		Delaware
MML Special Situations Investor LLC	None		Delaware
Timberland Forest Holding LLC	47-5322979		Delaware
Lyme Adirondack Forest Company, LLC	None		Delaware
Lyme Adirondack Timber Sales, Inc.	20-5305426		New York
Lyme Adirondack Timberlands I, LLC	None		
Lyme Adirondack Timberlands II, LLC	None		
WP-SC, LLC*	26-4441097		
MSP-SC, LLC	04-1590850		
Country Club Office Plaza LLC*	27-1435692		
Insurance Road LLC	04-1590850		
MassMutual Trad Private Equity LLC	04-1590850		
MassMutual Intellectual Property LLC	04-1590850		
Invicta Advisors LLC	56-2574604		
Jefferies Finance LLC	27-0105644		
Apex Credit Partners LLC	None		
JFIN Fund III LLC	None		
JFIN Asset Management LLC	None		
JFAM GP LLC	None		
JFAM GP LP	None		
JFAM Loan Fund, LP	None		
JFIN Co-Issuer Corporation	None		
JFIN Europe GP, S.a.r.l. Jefferies Finance Europe, SCSp	None None		
Jefferies Finance Business Credit LLC	None		
JFIN Business Credit LLC	None		
JFIN High Yield Investments LLC	None		
JFIN High Field Investments LLC JFIN LC Fund LLC	None		
JFIN LE Fuild LEC JFIN Revolver CLO Holdings LLC	None		Delaware
JFIN REVOIVE CLO Holdings ELC JFIN CLO 2007 Ltd.	None		Cayman Islands
of involted Loop Loop Loop.	1,0110		Cuyman Islands

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

PART 1 – ORGANIZATIONAL CHART

	Federal Tax ID	NAIC Co Code	State of Domicile
JFIN CLO 2012 Ltd.	None		Cayman Islands
JFIN CLO 2013 Ltd.	None		Cayman Islands
JFIN CLO 2014 Ltd.	None		Cayman Islands
JFIN CLO 2014-II Ltd.	None		Cayman Islands
JFIN MM CLO 2014 Ltd.*	None		Cayman Islands
JFIN CLO 2015 Ltd.*	None		Cayman Islands
Apex Credit CLO 2015-II Ltd.*	None		Cayman Islands
JFIN Revolver CLO Ltd.	None		Cayman Islands
JFIN Revolver CLO 2014 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2015 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2015-II Ltd.	None		Cayman Islands
JFIN Revolver CLO 2017 Ltd.	None		Cayman Islands
JFIN Revolver CLO 2017-II Ltd.	None		Cayman Islands
JFIN Revolver CLO 2017-III Ltd.	None		Cayman Islands
Apex Credit CLO 2016 Ltd.	None		Cayman Islands
Apex Credit CLO 2017 Ltd.	None		Cayman Islands
Apex Credit CLO 2017-II Ltd.	None		Cayman Islands
MassMutual Mortgage Lending LLC	None		Delaware
MassMutual Retirement Services, LLC	04-1590850		Delaware
MM Copper Hill Road LLC	04-1590850		Delaware
MML Distributors LLC*	04-3356880		Massachusetts
MML Investment Advisers, LLC	None		Delaware
MML Mezzanine Investor, LLC	04-1590850		Delaware
MML Strategic Distributors, LLC	46-3238013		Delaware
The MassMutual Trust Company, FSB	06-1563535		Connecticut
MassMutual Asset Finance LLC*	26-0073611		Delaware
MMAF Equipment Finance LLC 2009-A	27-1379258		Delaware
MMAF Equipment Finance LLC 2011-A	45-2589019		Delaware
MML Private Placement Investment Company I, LLC	04-1590850		Delaware
MML Private Equity Fund Investor LLC	04-1590850		Delaware
MM Private Equity Intercontinental LLC	04-1590850		Delaware
Pioneers Gate LLC	45-2738137		Delaware
MassMutual Holding LLC	04-2854319		Delaware
Fern Street LLC	37-1732913		Delaware
First Mercantile Trust Company	62-0951563		Tennessee
Haven Life Insurance Agency, LLC	46-2252944		Delaware
MassMutual Assignment Company	06-1597528		North Carolina
MassMutual Capital Partners LLC	04-1590850		Delaware
MassMutual Ventures LLC	47-1296410		Delaware
MM Rothesay Holdco US LLC	04-1590850		Delaware

51.1

PART 1 – ORGANIZATIONAL CHART

	Federal Tax ID	NAIC Co Code	State of Domicile
MML Investors Services, LLC	04-1590850		Massachusetts
MML Insurance Agency, LLC	04-1590850		Massachusetts
MMLISI Financial Alliances, LLC	41-2011634		Delaware
LifeScore Labs, LLC	47-1466022		Massachusetts
MM Asset Management Holding LLC	45-4000072		Delaware
Barings LLC	51-0504477		Delaware
Baring Asset Management (Asia) Holdings Limited	98-0524271		Hong Kong, Special Administrative Region of China
Baring International Fund Managers (Bermuda) Limited	98-0457465		Bermuda
Baring Asset Management (Asia) Limited	98-0457463		Hong Kong, Special Administrative Region of China
Baring Asset Management Korea Limited	None		Korea
Baring SICE (Taiwan) Limited	98-0457707		Taiwan ROC
Barings Japan Limited	98-0236449		Japan
Baring Asset Management (Australia) Pty Limited	98-0457456		Australia
Barings Investment Advisors (Hong Kong) Limited	None		Hong Kong, Special Administrative Region of China
Barings Australia Holding Company Pty Ltd	None		Australia
Barings Australia Pty Ltd	98-0457456		Australia
Barings Finance LLC	80-0875475		Delaware
BCF Europe Funding Limited	None		Ireland
BCF Senior Funding I LLC	None		Delaware
Barings Securities LLC	04-3238351		Delaware
Barings Guernsey Limited	98-0437588		Guernsey
Barings Europe Limited	None		United Kingdom
Barings Real Estate UK Holdings Limited	None		Delaware
BREAE AIFM LLP	None		United Kingdom
Barings Real Estate Advisers (Continental Europe) Limited	98-0654401		United Kingdom
Barings Real Estate Advisers Europe LLP	98-0654388		United Kingdom
Barings Real Estate Advisers Europe Finance LLP	98-0654412		United Kingdom
Barings Real Estate Advisers GmbH	98-1194368		Germany
Baring Asset Management Limited	98-0241935		United Kingdom
Barings Global Advisors Limited	98-1012393		United Kingdom
BCGSS 2 GP LLP	None		United Kingdom
Babson European Direct Lending 1 GP LLP	None		United Kingdom
Baring International Investment Limited	98-0457328		United Kingdom
Baring International Investment Management Holdings	98-0457587		United Kingdom
Baring Asset Management UK Holdings Limited	98-0457576		United Kingdom
Baring Asset Management GmbH	98-0465031		Germany
Baring International Fund Managers (Ireland) Limited	98-0524272		Ireland
Baring Asset Management Switzerland Sarl	None		Switzerland
Baring France SAS	98-0497550		France
	98-0457586		United Kingdom
Baring Fund Managers Limited	90-043/300		

PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	NAIC Co Code	State of Domicile
Baring Investment Services Limited	98-0457578		United Kingdom
Barings (U.K.) Limited	98-0432153		United Kingdom
Barings Investment Fund (LUX) GP S.à. r.l.	None		Luxembourg
Barings GPC GP S.à. r.l.	None		Luxembourg
Almack Mezzanine GP III Limited	None		United Kingdom
Almack Holding Partnership GP Limited	None		United Kingdom
Almack Mezzanine Fund Limited	None		United Kingdom
Almack Mezzanine Fund II Limited	None		United Kingdom
Barings Multifamily Capital Holdings LLC	None		Delaware
Barings Multifamily Capital LLC	None		Michigan
Barings Multifamily Capital Corporation	None		Delaware
Barings Real Estate Advisers Inc.	04-3238351		California
MassMutual Baring Holding LLC	04-1590850		Delaware
Baring North America LLC	98-0241935		Massachusetts
MassMutual Holdings (Bermuda) Limited	None		Bermuda
Agspring Holdco, LLC	None		Delaware
Alchemy Copyrights LLC	47-2642354		Delaware
Chassis Acquisition Holding LLC	81-2244465		Delaware
CRA Aircraft Holding LLC*	81-4258759		Delaware
Intermodal Holding II LLC*	46-2344300		Delaware
Milestone Acquisition Holding, LLC.	47-3055009		Delaware
Red Lake Ventures, LLC	46-5460309		Delaware
Remington L & W Holdings LLC*	81-4065378		Connecticut
Solar Acquisition Holding, LLC	None		Delaware
Sweet Tree Holdings 1, LLC	46-3123110		Delaware
Tamiami Citrus, LLC	None		Delaware
Teaktree Acquisition, LLC	None		Delaware
U.S. Buyer Broadcasting, LLC	47-1855920		Delaware
U.S. WIG Holdings, LP	46-1500495		Delaware
U.S. Pharmaceuticals Holdings I, LLC	46-0687392		Delaware
U.S. Pharmaceuticals Holdings II, LLC	47-5436800		Delaware
Validus Pharmaceuticals LLC	None		Delaware
VGS Acquisition Holding, LLC	None		Delaware
Baring Asset-Based Income Fund (US) GP, LLC	None		Delaware
Babson Capital Floating Rate Income Fund Management, LLC	04-1590850		Delaware
Babson Global Loan Feeder Management, LLC	None		Delaware
Barings CLO Investment Partners GP, LLC	None		Delaware
Barings Global Energy Infrastructure Advisors, LLC	None		Delaware
Barings Global Real Assets Fund GP, LLC	None		Delaware
Barings North American Private Loan Fund Management, LLC	None		Delaware
Barings TERO Management LLC	None		Delaware

PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	NAIC Co Code	State of Domicile
Benton Street Advisors, Inc.	98-0536233		Cayman Islands
Great Lakes III GP, LLC	04-1590850		Delaware
Lake Jackson LLC	None		Delaware
Loan Strategies Management LLC	04-1590850		Delaware
Mezzeo LLC	04-1590850		Delaware
Mezzeo II LLC	02-0767001		Delaware
Mezzco III LLC	41-2280126		Delaware
Mezzco IV LLC	80-0920285		Delaware
Mezzco Australia LLC	90-0666326		Delaware
Mezzco Australia II LLC	None		Delaware
Somerset Special Opportunities Management LLC	04-1590850		Delaware
Oppenheimer Acquisition Corp.	84-1149206		Delaware
OppenheimerFunds, Inc.	13-2527171		Colorado
OppenheimerFunds Distributor, Inc.	13-2953455		New York
Oppenheimer Real Asset Management, Inc.	84-1106295		Delaware New York
OFI Global Institutional, Inc.	13-4160541		New York
HarbourView Asset Management Corporation OC Private Capital, LLC	22-2697140 None		Delaware
OFI Global Trust Company	13-3459790		New York
OFI International, Ltd.	None		United Kingdom
SNW Asset Management Corporation	None		Delaware
Styw Asset Management Corporation Seattle Northwest Asset Management LLC	None		Washington
Trinity Investment Management Corporation	25-1951632		Pennsylvania
OFI SteelPath, Inc.	84-1128397		Delaware
Shareholder Services. Inc.	84-1066811		Colorado
OFI Advisors, LLC	None		Pennsylvania
Index Management Solutions, LLC	None		Pennsylvania
OFI Global Asset Management, Inc.	84-0765063		Delaware
OFI Private Investments Inc.	91-2036414		New York
Tremont Group Holdings, LLC	62-1210532		New York
Tremont Partners, LLC	06-1121864		Connecticut
Tremont GP, LLC	20-8215352		Delaware
Settlement Agent, LLC	90-0874510		Delaware
Tremont (Bermuda) Limited	None		Bermuda
MassMutual International LLC	04-3313782		Delaware
MassMutual Asia Limited	None		Hong Kong, Special Administrative Region of China
MassMutual Asia Investors Ltd.	None		Hong Kong, Special Administrative Region of China
MassMutual Guardian Limited	None		Hong Kong, Special Administrative Region of China
MassMutual Insurance Consultants Limited	None		Hong Kong, Special Administrative Region of China
MassMutual Services Limited	None		Hong Kong, Special Administrative Region of China
MassMutual Trustees Limited	None		Hong Kong, Special Administrative Region of China

PART 1 – ORGANIZATIONAL CHART

	Federal Tax ID	NAIC Co Code	State of Domicile
Protective Capital (International) Limited	98-0610331		Hong Kong, Special Administrative Region of China
MassMutual Life Insurance Company	None		Japan
MassMutual Internacional (Chile) SpA	98-1033127		Chile
MML Management Corporation	04-2443240		Massachusetts
MassMutual Holding MSC, Inc.	04-3341767		Massachusetts
MassMutual International Holding MSC, Inc.	04-3548444		Massachusetts
MML Mezzanine Investor II, LLC	04-1590850		Delaware
MML Mezzanine Investor III, LLC	04-1590850		Delaware
MassMutual External Benefits Group LLC	27-3576835		Delaware
Cornerstone Global REIT Corporation	20-8730751		Delaware
Other Affiliates & Funds:			
100 w. 3 <sup>rd</sup> Street LLC	04-1590850		Delaware
300 South Tryon Hotel LLC	82-2432216		Delaware
300 South Tryon LLC	04-1590850		Delaware
54 West Capital LLC	20-3887968		Delaware
Almack Mezzanine Fund I LP*	None		United Kingdom
Almack Mezzanine Fund II Unleveraged LP	None		United Kingdom
Almack Mezzanine Fund III LP*	None		United Kingdom
Barings Asset-Based Income Fund (US) LP	36-4868350		Delaware
Barings Emerging Markets Corporate Bond Fund	None		Ireland
Barings Global Special Situations Credit Fund 1	None		Ireland
Babson Capital Global Special Situation Credit Fund 2*	98-1206017		Delaware
Babson Capital Loan Strategies Fund, L.P.*	37-1506417		Delaware
Barings US High Yield Bond Fund*	None		Ireland
Babson CLO Ltd. 2012-II	None		Cayman Islands
Babson CLO Ltd. 2013-I	None		Cayman Islands
Babson CLO Ltd. 2013-II	98-1128827		Cayman Islands
Babson CLO Ltd. 2014-I	None		Cayman Islands
Babson CLO Ltd. 2014-II	None		Cayman Islands
Babson CLO Ltd. 2014-III	None		Cayman Islands
Babson CLO Ltd. 2015-I	None		Cayman Islands
Babson CLO Ltd. 2015-II	None		Cayman Islands
Babson CLO Ltd. 2016-I	None		Cayman Islands
Babson CLO Ltd. 2016-II	None		Cayman Islands
Barings CLO Ltd. 2017-I	None		Cayman Islands
Babson Euro CLO 2014-I BV	None		Netherlands
Babson Euro CLO 2014-II BV	None		Netherlands
Babson Euro CLO 2015-I BV	None		Netherlands
Babson Euro CLO 2016-I BV	None		Netherlands
Baring Focused EAFE Equity Fund	11-3789446		Delaware
Barings Global Energy Infrastructure Fund I LP	98-1332384		Cayman Islands

PART 1 – ORGANIZATIONAL CHART

	Federal Tax ID NAIC Co Co	de State of Domicile
Barings Global Private Loan Fund	None	Luxembourg
Barings Middle Market CLO 2017-I Ltd & LLC	None	Cayman Islands
Barings North American Private Loan Fund LP	38-4010344	Delaware
Barings RE Credit Strategies VII LP	98-1332384	Delaware
Baring International Small Cap Equity Fund	26-4142796	Delaware
Barings CLO Investment Partners LP	81-0841854	Delaware
Barings Real Estate European Value Add I SCSp*	None	United Kingdom
Braemar Energy Ventures I, L.P. *	None	Delaware
Barings European Core Property Fund SCSp	None	Luxembourg
Cornerstone Core Mortgage Venture I LP	27-1701622	Delaware
Cornerstone Enhanced Mortgage Fund I LP	45-3751572	Delaware
Cornerstone Global Real Estate LP*	20-8730751	Delaware
Cornerstone High Yield Venture LP	36-4770946	Delaware
Barings/LAZ Parking Fund LP	46-5437441	Delaware
Barings Core Property Fund LP	20-5578089	Delaware
Cornerstone Real Estate Fund VIII LP	27-0547156	Delaware
Cornerstone Real Estate Fund X LP	46-5432619	Delaware
Duchess VI CLO B.V.	None	United Kingdom
Duchess VII CLO B.V.	None	United Kingdom
E-Wise Land Venture LLC	20-3887968	Delaware
Gateway Mezzanine Partners I LP*	80-0691253	Delaware
Gateway Mezzanine Partners II LP*	90-0991195	Delaware
Gillem GA Industrial LLC	04-1590850	Delaware
Great Lakes III, L.P.	37-1708623	Delaware
JPMCC Commercial Mortgage Securities Trust 2017-JP7	38-4041011; 38-4041012	New York
JPMDB Commercial Mortgage Securities Trust 2017-C5	38-4032059	New York
Kazwell Realty Partners LLC	20-3887968	Delaware
KKR-MM Vector LP	82-1512591	Delaware
Marco Hotel LLC	46-4255307	Delaware
MM Debt Participations LLC	81-3000420	Delaware
MML O'Hare Hotel LLC	26-3799762	Delaware
Oakley Grove Development LLC	20-3887968	Delaware
Old Pasco Properties LLC	20-3887968	Delaware
Reston Arboretum LLC	75-2901061	Delaware
Riva Portland LLC	30-0713071	Delaware
Rockall CLO B.V.	None	United Kingdom
Rockville Town Center LLC	54-2055778	Virginia
Sedona TFMP Land LLC	04-1590850	Delaware
Somerset Special Opportunities Fund L.P.*	20-8856877	Delaware
South Pasco Properties LLC	20-3887968	Delaware

PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	NAIC Co Code	State of Domicile
Tower Square Capital Partners II, L.P.*	30-0336246		Delaware
Tower Square Capital Partners II-A, L.P.*	32-0160190		Delaware
Tower Square Capital Partners III, L.P.*	41-2280127		Delaware
Tower Square Capital Partners IIIA, L.P.	41-2280129		Delaware
Tower Square Capital Partners IV-A, L.P.	80-0920367		Delaware
West 46 <sup>th</sup> Street Hotel LLC	05-1590850		Delaware
Barings Affiliates & Funds:	00 10,0000		D ora (faire
Barings Emerging Markets Debt Blended Total Return Fund	None		Ireland
Barings Emerging Markets Debt Short Duration Fund	None		Ireland
Barings Emerging Markets Sovereign Debt Fund	None		Ireland
Babson Capital Floating Rate Income Fund, L.P.	27-3330830		Delaware
Barings Global Investment Grade Corporate Plus Fund	None		Ireland
Babson Capital Loan Strategies Master Fund LP	None		Cayman Islands
Barings Emerging Markets Debt Blended Total Return Fund	47-3758432		Massachusetts
Barings Emerging Markets Local Currency Debt Fund	47-3774453		Massachusetts
Barings Global High Yield Fund	47-3790192		Massachusetts
Baring Greater China Equity Fund	None		Hong Kong
Barings Total Return Bond Fund	47-3734770		Massachusetts
Barings U.S. High Yield Fund	47-3801860		Massachusetts
Great Lakes II LLC*	71-1018134		Delaware
Somerset Special Opportunities Master Fund LP	None		Cayman Islands
Wood Creek Venture Fund LLC	04-1590850		Delaware
Barings Real Estate Affiliates & Funds:			
50 Liberty LLC*	36-4823011		Delaware
One Harbor Shore LLC*	80-0948028		Delaware
Alexandria Towers Investors LLC	04-1590850		Delaware
Budapester Strasse LLC	81-4382111		Delaware
Calgary Railway Holding LLC*	82-2285211		Delaware
Cambridge Hotel LLC	04-1590850		Delaware
CHC/RFP VI Core LLC	04-1590850		Delaware
Cornerstone California Mortgage Fund I LLC	95-4207717		California
Cornerstone California Mortgage Fund II LLC	95-4207717		California
Cornerstone California Mortgage Fund III LLC	95-4207717		California
Cornerstone Fort Pierce Development LLC*	56-2630592		Delaware
Cornerstone Permanent Mortgage Fund	45-2632610		Massachusetts
Cornerstone Permanent Mortgage Fund II	61-1750537		Massachusetts
Cornerstone Permanent Mortgage Fund III	35-2531693		Massachusetts
Cornerstone Permanent Mortgage Fund IV	61-1793735		Massachusetts

PART 1 – ORGANIZATIONAL CHART

-----

-----

	<b>Federal Tax ID</b>	NAIC Co Code	State of Domicile
CREA 330 Third LLC*	46-5001122		Delaware
CREA/LYON West Gateway, LLC*	26-2399532		Delaware
CREA Madison Member LLC	81-0890084		Delaware
CREA/PPC Venture LLC*	20-0348173		Delaware
CCB Montford Park LLC*	82-1563809		Delaware
Danville Riverwalk Venture, LLC	82-2783393		Delaware
Fallon Cornerstone One MPD LLC*	26-1611591		Delaware
Fan Pier Development LLC*	20-3347091		Delaware
Farringdon London Holdings LLC*	46-3880526		Delaware
Infinity SCD Ltd.	None		United Kingdom
Johnston Groves LLC	20-4819358		Delaware
Landmark Manchester Holdings LLC	81-5360103		Delaware
Portland 400 Sixth Manager LLC	82-3393166		Delaware
Salomon Brothers Commercial Mortgage Trust 2001-MM	None		Delaware
Sawgrass Village Shopping Center LLC*	27-2977720		Delaware
Seattle 1415 Hotel Owner LLC	04-1590850		Delaware
Ten Fan Pier Boulevard LLC*	None		Delaware
Three PW Office Holding LLC	81-5273574		Delaware
Twenty Two Liberty LLC*	35-2484550		Massachusetts
UK LIW Manager LLC	45-4606547		Delaware
UK LIW Member LLC	45-4606547		Delaware
Unna, Dortmund Holding LLC	82-3250684		Delaware
Via Ceresio Milan LLC	82-3281588		Delaware
Washington Gateway Apartments Venture LLC*	45-5401109		Delaware
Waterford Development Associates	20-2970495		Delaware
Waterloo London Holdings LLC	47-1993493		Delaware
WeHo Domain LLC*	46-3122029		Delaware
Willowwood Lakeside Master LLC	81-1552222		Delaware
Ygnatio Valley Funding	20-5481477		Delaware
MassMutual Premier Funds:			
MassMutual Barings Dynamic Allocation Fund	45-3168892		Massachusetts
MassMutual Premier Focused International Fund	02-0754273		Massachusetts
MassMutual Premier Main Street Fund	51-0529328		Massachusetts
MassMutual Premier Strategic Emerging Markets Fund	26-3229251		Massachusetts
MassMutual Premier Value Fund	04-3277550		Massachusetts
MassMutual Select Funds:			
MassMutual Select Diversified International Fund	14-1980900		Massachusetts
MassMutual Select Diversified Value Fund	01-0821120		Massachusetts
MassMutual Select Fundamental Growth Fund	04-3512593		Massachusetts
MassMutual Select Large Cap Value Fund	04-3513019		Massachusetts
MassMutual Select Mid-Cap Value Fund	42-1710935		Massachusetts

PART 1 – ORGANIZATIONAL CHART

	<u>Federal Tax ID</u>	NAIC Co Code	<b>State of Domicile</b>
MassMutual Select Small Capital Value Equity Fund	02-0769954		Massachusetts
MassMutual Select Small Company Value Fund	04-3584140		Massachusetts
MML Series Investment Funds:	01000110		11100001100000
MML Series International Equity Fund	46-4257056		Massachusetts
MML Series Investment Funds II:			
MML Series II Asset Momentum Fund	47-3517233		Massachusetts
MML Series II Dynamic Bond Fund	47-3529636		Massachusetts
MML Series II Equity Rotation Fund	47-3544629		Massachusetts
MML Series II Special Situations Fund	47-3559064		Massachusetts
MassMutual RetireSMART Funds:			
MassMutual RetireSMART 2055 Fund	46-3289207		Massachusetts
MassMutual RetireSMART 2060 Fund	47-5326235		Massachusetts
MassMutual RetireSMART Conservative Fund	45-1618155		Massachusetts
MassMutual RetireSMART Growth Fund	45-1618222		Massachusetts
MassMutual RetireSMART Moderate Fund	45-1618262		Massachusetts
MassMutual RetireSMART Moderate Growth Fund	45-1618046		Massachusetts
Oppenheimer Funds:			
OFI Pictet Global Environmental Solution Fund	81-5311583		Delaware
Oppenheimer Developing Markets Fund	93-6305075		Delaware
Oppenheimer Developing Markets Equity UCITS	None		Ireland
Oppenheimer Emerging Markets Innovators UCITS	None		Ireland
Oppenheimer Emerging Markets Local Debt UCITS	3440740DH		Ireland
Oppenheimer Emerging Markets Revenue ETF	46-2984739		Delaware
Oppenheimer ESG Revenue ETF	81-3492794		Delaware
Oppenheimer Global ESG Revenue ETF	81-3480754		Delaware
Oppenheimer Global Equity UCITS	None		Ireland
Oppenheimer Global Multi-Asset Growth Fund	47-3676235		Delaware
Oppenheimer Global Revenue ETF	81-5010075		Delaware
Oppenheimer Global Value Equity UCITS	None		Ireland
Oppenhemier International Growth & Income Fund	81-3136071		Delaware
Oppenheimer International Revenue ETF	81-4969331		Delaware
Oppenheimer Russell 1000 Dynamic Multifactor ETF	82-2791387		Delaware
Oppenheimer Russell 2000 Dynamic Multifactor ETF	82-2794856		Delaware
Oppenheimer Russell 1000 Momentum Factor ETF	82-2716323		Delaware
Oppenheimer Russell 1000 Value Factor ETF	82-2759921		Delaware
Oppenheimer Russell 1000 Low Volatility Factor ETF	82-2701797		Delaware
Oppenheimer Russell 1000 Size Factor ETF	82-2740997		Delaware
Oppenheimer Russell 1000 Quality Factor ETF	82-2732571		Delaware
Oppenheimer Russell 1000 Yield Factor ETF	82-2768498 82-2222426		Delaware
Oppenheimer SteelPath MLP & Energy Infrastructure Fund	82-222420		Delaware

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
'	2	5	4	5	0	/	0	3	10		Type	lf	14	15	10
											of Control	Control			
											(Ownership,	is		ls an	
						Name of Securities			Relation-		Board.	Owner-		SCA	
								Danal			)				
						Exchange		Domi-	ship		Management,	ship		Filing	
_		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
							Massachusetts Mutual Life Insurance Company			Massachusetts Mutual Life Insurance					
0435 Ma	assachusetts Mut Life Ins Co		04-1590850	. 3848388	0000225602		(MMLIC)	MA	UIP	Company	Ownership	100.000 MMLIC			
										Massachusetts Mutual Life Insurance					
	M Life Ins Co		06-1041383				C.M. Life Insurance Company	CT	UDP	Company	Ownership	100.000 MMLIC			
	ML Baystate Life Ins Co		43-0581430		0000924777		MML Bay State Life Insurance Company	CT	RE	C.M. Life Insurance Company	Ownership	100.000 MMLIC			
			06-1041383				CML Mezzanine Investor, LLC	DE	NI A	C.M. Life Insurance Company	Ownership	100.000 MMLIC			
0000			06-1041383				CML Mezzanine Investor L, LLC	DE	NIA	C.M. Life Insurance Company	Ownership	100.000 MMLIC			
0000			06-1041383				CML Mezzanine Investor III, LLC	DE	NI A	C.M. Life Insurance Company	Ownership				
							CML Special Situations Investor LLC	DE	NIA	C.M. Life Insurance Company	Ownership	100.000 MMLIC		- [	
0000			04 4500050	1			Mar Manager Investor 1, 110	DE	N11 A	Massachusetts Mutual Life Insurance	0. marsh i	100.000		1	
		-	04-1590850	-			MML Mezzanine Investor L, LLC		NIA	Company	Ownership	100.000 MMLIC		- [	
0000				1				DE	N11 A	Massachusetts Mutual Life Insurance	0. marsh i	100,000		1	
							MML Special Situations Investor LLC	DE	NI A	Company Massachusetts Mutual Life Insurance	Ownership	100.000 MMLIC		·	
0000			47 500070	1			Timberland Ferret Helding 110	DE	NIT A		Ownership	100.000 MML10		1	
			47-5322979 47-5322979				Timberland Forest Holding LLC Timberland Forest Holding LLC	DE DE	NIA	Company C.M. Life Insurance Company	Ownership Ownership			- [	
			47-5322979				Timber land Forest Holding LLC	DE	NIA	Wood Creek Capital Management LLC	Management				
			47-0022979				Lyme Adirondack Forest Company, LLC	DE	NIA	Timberland Forest Holding LLC	Ownership	100.000 MMLIC			
0000			20-5305426				Lyme Adirondack Forest Company, LLC	NY	NIA	Timberland Forest Holding LLC	Ownership				
			20-0000420				Lyme Adirondack Timber Sales, Inc	DE	NIA	Timberland Forest Holding LLC	Ownership				
							Lyme Adirondack Timberlands I, LLC	DE	NIA	Timberland Forest Holding LLC	Ownership				
							Lyme Autronoack Timberranus II, LLC	UL		Massachusetts Mutual Life Insurance	owner strip				
			04-1590850				Berkshire Way LLC	DE	NIA	Company	Ownership				
			04 1000000					····DL		Massachusetts Mutual Life Insurance	owner arrp				
			26-4441097				WP-SC. LLC	DE	NI A	Company	Ownership				
0000			26-4441097				WP-SC, LLC	DE	NIA	C.M. Life Insurance Company	Ownership	18.600 MMLIC			
										Massachusetts Mutual Life Insurance					
			04-1590850				MSP-SC. LLC	DE	NIA	Company	Ownership				
										Massachusetts Mutual Life Insurance					
			27-1435692				Country Club Office Plaza LLC	DE	NI A	Company	Ownership	88.100MMLIC			
			27-1435692				Country Club Office Plaza LLC	DE	NI A	C.M. Life Insurance Company	Ownership				
										Massachusetts Mutual Life Insurance	-				
			56-2574604				Invicta Advisors LLC	DE	NI A	Company	Ownership	100.000 MMLIC			
										Massachusetts Mutual Life Insurance					
			04-1590850				Insurance Road LLC	DE	NI A	Company	Ownership	100.000 MMLIC			
			04-1590850				MassMutual Trad Private Equity LLC	DE	NIA	Insurance Road LLC	Ownership	100.000 MMLIC		.	
			04-1590850				MassMutual Intellectual Property LLC	DE	NI A	Insurance Road LLC	Ownership	100.000 MMLIC		. [	
				1						Massachusetts Mutual Life Insurance					
			27-0105644				Jefferies Finance LLC	DE	NI A	Company	Ownership			-	
				1						Massachusetts Mutual Life Insurance	L				
							MassMutual Mortgage Lending LLC	DE	NIA	Company	Ownership	100.000 MMLIC			
							Apex Credit Partners LLC	DE	NI A	Jefferies Finance LLC	Ownership			-	
							JFIN Fund III LLC	DE	NIA	Jefferies Finance LLC	Ownership			-	
							JFIN Asset Management LLC	DE	NIA	Jefferies Finance LLC	Ownership			-	
							JFAM GP LLC	DE	NIA	JFIN Asset Management, LLC	Ownership				
							JFAM GP LP	DE DE	NIA	JFIN Asset Management, LLC	Ownership			-	
							JFAM Loan Fund, LP		NIA	JFIN Asset Management, LLC	Ownership				
							JFIN Co-Issuer Corporation	DE	NI A	Jefferies Finance LLC	Ownership			-	
							JFIN Europe GP, S.a.r.I.	LUX	NIA	Jefferies Finance LLC Jefferies Finance LLC	Ownership			-	
							Jefferies Finance Europe, SCSp Jefferies Finance Business Credit LLC	LUX	NI A	Jefferies Finance LLC	Ownership			-	
								DE	NIA	Jefferies Finance LLC	Ownership			-	
0000							JFIN Business Credit Fund I LLC JFIN High Yield Investments LLC	DE DE	NIA NIA	Jefferies Finance LLC	Ownership Ownership			-	
0000							JFIN High Yield Investments LLC	DE DF	NIA	Jefferies Finance LLC	Ownership	100.000 MMLIC		-	
							JEIN LU FUNU LLU	VE	NI A	Jerrer les Finance LLC	owner strip			-	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
											Туре	lf			
											of Control	Control			
											(Ownership,			ls an	
												is			
						Name of Securities			Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	2
Code	Crown Nama	Code	Number	RSSD	CIK	International)	Or Affiliates		Entity	(Name of Entity/Person)	Other)		Entity(ies)/Person(s)	(Y/N)	
	Group Name	Code	Indumber	8990	CIK			tion				tage		(Y/N)	
						· · · · · · · · · · · · · · · · · · ·	JFIN Revolver CLO Holdings LLC	DE	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
							JFIN CLO 2007 Ltd	CYM	NI A	Jefferies Finance LLC	Ownership		MMLIC		
							JFIN CLO 2012 Ltd	CYM	NIA	Jefferies Finance LLC	Ownership		MMLIC		
							JFIN CLO 2013 Ltd	CYM	NI A	Jefferies Finance LLC	Ownership		MMLIC		
							JFIN CLO 2014 Ltd	CYM	NIA	Jefferies Finance LLC	Ownership		MMLIC		
							JFIN CLO 2014 Ltd.	CYM	NIA	Apex Credit Partners LLC	Ownership		MMLIC		
0000							JFIN CLO 2014-II Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN MM CLO 2014 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MILIC		
0000							JFIN CLO 2015 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	44.000	MILIC		
0000							JFIN CLO 2015 Ltd.	CYM CYM	NIA NIA	Apex Credit Partners LLC Jefferies Finance LLC	Ownership		MMLIC		
							Apex Credit CLO 2015-II Ltd.				Ownership				
							Apex Credit CLO 2015-II Ltd	CYM	NIA	Apex Credit Partners LLC	Ownership		MMLIC		
							JFIN Revolver CLO Ltd	CYM	NI A	Jefferies Finance LLC	Ownership		MMLIC		
							JFIN Revolver CLO 2014 Ltd	CYM	NI A	Jefferies Finance LLC	Ownership		MMLIC		
							JFIN Revolver CLO 2015 Ltd	CYM	NI A	Jefferies Finance LLC	Ownership		MMLIC		
							JFIN Revolver CLO 2015-II Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership.	100.000	MMLIC		
							JFIN Revolver CLO 2017 Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MMLIC		
0000							JFIN Revolver CLO 2017-II Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MILIC		
							JFIN Revolver CLO 2017-III Ltd.	CYM	NIA	Jefferies Finance LLC	Ownership	100.000	MILIC		
0000								CYML	NIA	Jefferies Finance LLC			MMLIC		
							Apex Credit CLO 2016 Ltd.				Ownership				
0000							Apex Credit CLO 2017 Ltd	CYM	NI A	Jefferies Finance LLC	Ownership		MMLIC		
						<i>F</i>	Apex Credit CLO 2017-II Ltd	CYM	NI A	Jefferies Finance LLC	Ownership		MMLIC		
										Massachusetts Mutual Life Insurance					
			04-1590850			I N	MassMutual Retirement Services, LLC	DE	NIA	Company	Ownership		MMLIC		
										Massachusetts Mutual Life Insurance					
			04-1590850			M	M Copper Hill Road LLC	DE	NIA	Company	Ownership		MMLIC		
										Massachusetts Mutual Life Insurance					
0000			04-3356880		0000943903	L I I I I I I I I I I I I I I I I I I I	ML Distributors LLC	MA	NIA	Company	Ownership	99.000	MMLIC		
			04-3356880		0000943903		ML Distributors LLC		NIA	MassMutual Holding LLC	Ownership	1.000	MILIC		
			04-000000		0000340300	n				Massachusetts Mutual Life Insurance	owner simp		MMLIC		
0000							ML Investment Advisers, LLC	DE	NIL A		0	100,000	MMLIC		
0000						N	MML Investment Advisers, LLC		NI A	Company	Ownership		MMLIG		
										Massachusetts Mutual Life Insurance					
			04-1590850			N	ML Mezzanine Investor, LLC	DE	NI A	Company	Ownership		MMLIC		
					1					Massachusetts Mutual Life Insurance					
			46-3238013			N	ML Strategic Distributors, LLC	DE	NI A	Company	Ownership		MMLIC		
					1					Massachusetts Mutual Life Insurance					
			06-1563535	2881445	0001103653	1	The MassMutual Trust Company, FSB	CT	NIA	Company	Ownership	100.000	MMLIC	Y	
										Massachusetts Mutual Life Insurance					
			26-0073611			1	AssMutual Asset Finance LLC	DE	NIA	Company	Ownership.		MMLIC		1
0000			26-0073611				lassMutual Asset Finance LLC	DE	NIA	C.M. Life Insurance Company	Ownership		MMLIC	-	
			27-1379258				MAF Equipment Finance LLC 2009-A	DE	NIA	MassMutual Asset Finance LLC	Ownership	100.000			
			45-2589019												
0000			45-2589019			<u>\</u>	MAF Equipment Finance LLC 2011-A	DE	NI A	MassMutual Asset Finance LLC	Ownership	100.000	MMLIC		
					1		ML Private Placement Investment Company			Massachusetts Mutual Life Insurance					
0000			04-1590850			L	LC	DE	NI A	Company	Ownership		MMLIC		
					1					Massachusetts Mutual Life Insurance					
0000			04-1590850		0000067160	N	ML Private Equity Fund Investor LLC	DE	NI A	Company	Ownership		MMLIC		
			04-1590850			N	M Private Equity Intercontinental LLC	DE	NIA	MML Private Equity Fund Investor LLC	Ownership		MMLIC		
							• • • • • • • • • • • • • • • • • • • •			Massachusetts Mutual Life Insurance					
0000			45-2738137		1		Pioneers Gate LLC	DE	NIA	Company	Ownership		MMLIC		
			.5 2100101			'				Massachusetts Mutual Life Insurance				-	
0000			04-2854319	2392316		1	MassMutual Holding LLC	DE	NIA		Ownership	100.000	MMLIC	v	1
0000				2092010						Company				'	
			06-1597528				MassMutual Assignment Company	NC DE	NIA	MassMutual Holding LLC	Ownership		MMLIC		
			37-1732913	1	1	1 11	Fern Street LLC		NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC	1	
0000			62-0951563	1160004	0001259664		First Mercantile Trust Company		NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		

4		0	4	-	0	7	0	0	10	44	10	10	4.4	15	10
1	2	3	4	5	6	1	8	9	10	11	_12	13 If	14	15	16
	ļ										Туре				
	ļ										of Control	Control			
	ļ										(Ownership,	is		ls an	
	ļ					Name of Securities			Relation-		Board,	Owner-		SCA	
	ļ					Exchange		Domi-	ship		Management,	ship		Filing	
	ļ	NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group	ļ	Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	,
Code	Crown Norma			RSSD	CIK		Or Affiliates			(Name of Entity/Person)	Other)		Entity(ies)/Person(s)	(Y/N)	*
	Group Name	Code	Number	RSSD	UK	International)		tion	Entity			tage		(Y/N)	
			46-2252944				Haven Life Insurance Agency, LLC	DE	NIA	MassMutual Holding LLC	Ownership		MMLIC		
			04-1590850		0001399869		MassMutual Capital Partners LLC	DE	NI A	MassMutual Holding LLC	Ownership		MMLIC		
			47-1296410				MassMutual Ventures LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
			04-1590850				MM Rothesay Holdco US LLC	DE	NI A	MassMutual Holding LLC	Ownership		MMLIC		
0000			47-1466022				LifeScore Labs, LLC	MA	NIA	MassMutual Holding LLC	Ownership		MMLIC		
0000			04-1590850		0000701059		MML Investors Services, LLC	MA	NI A	MassMutual Holding LLC	Ownership		MMLIC		
			04-1590850				MML Insurance Agency, LLC	MA	NI A	MML Investors Services, LLC	Ownership	100.000	MMLIC		
0000			41-2011634		0001456663		MMLISI Financial Alliances, LLC	DE	NI A	MML Investors Services, LLC	Ownership		MMLIC		
			45-4000072				MM Asset Management Holding LLC	DE	NIA	MassMutual Holding LLC	Ownership	100.000	MMLIC		
0000			51-0504477		0000009015		Barings LLC	DE	NI A	MassMutual Asset Management Holding LLC	Ownership		MMLIC		
	ļ						Baring Asset Management (Asia) Holdings	1						1	1
0000			98-0524271				Limited	HKG	NI A	Barings LLC	Ownership		MMLIC		
	ļ						Baring International Fund Managers (Bermuda)	1	1	Baring Asset Management (Asia) Holdings					
			98-0457465				Limited	BMU	NIA	Limited	Ownership	100.000	MMLIC		
	ļ									Baring Asset Management (Asia) Holdings	·				
			98-0457463				Baring Asset Management (Asia) Limited	HKG	NIA	Limited	Ownership	100.000	MMLIC		
							Baring Asset Management Korea Limited	KOR	NIA	Baring Asset Management (Asia) Limited	Ownership	100.000	MMLIC		
										Baring Asset Management (Asia) Holdings					
	ļ		98-0457707				Baring SICE (Taiwan) Limited	TWN	NIA	Limited	Ownership		MMLIC		
			00 0101101				Barnig orde (rankan) Enkrida			Baring Asset Management (Asia) Holdings					
	ļ		98-0236449				Barings Japan Limited	JPN	NIA	Limited	Ownership	100.000	MMLIC		
			30 0200443				Baring Asset Management (Australia) Pty			Baring Asset Management (Asia) Holdings	owner arr p				
	ļ		98-0457456				Limited	AUS	NIA	Limited	Ownership	100.000	MMLIC		
			30 040/400				Barings Investment Advisors (Hong Kong)			Baring Asset Management (Asia) Holdings	owner arr p				
	ļ						Limited	HKG	NIA	Limited	Ownership	100.000	MMLIC		
										Baring Asset Management (Asia) Holdings	owner sin p				
	ļ						Barings Australia Holding Company Pty Ltd	AUS	NIA	Limited	Ownership	100.000	MMLIC		
0000			98-0457456				Barings Australia Pty Ltd	AUS		Baring Australia Holding Company Pty Ltd.	Ownership Ownership		MMLIC		
			80-0875475				Barings Finance LLC	DE	NIA	Baring LLC	Ownership		MMLIC		
0000			00-06/04/0				BCF Europe Funding Limited			Barings Finance LLC	Ownership Ownership	100.000	MMLIC		
							BCF Senior Funding   LLC	DE	NIA	Barings Finance LLC			MMLIC		
			04.0000054		000000010				NIA NIA		Ownership				
			04-3238351		0000930012		Barings Securities LLC		NIA NIA	Barings LLC	Ownership		MMLIC		+
			98-0437588				Barings Guernsey Limited			Barings LLC	Ownership				
							Barings Europe Limited	GBR		Barings Guernsey Limited	Ownership		MMLIC		+
							Barings Real Estate UK Holdings Limited	DE		Barings Europe Limited	Ownership		MMLIC		
0000							BREAE AIFM LLP	GBR	NIA	Barings Real Estate UK Holdings Limited	Ownership		MMLIC		·
	ļ						Barings Real Estate Advisers (Continental					400.005			
0000			98-0654401				Europe) Limited	GBR	NI A	Barings Real Estate UK Holdings Limited	Ownership		MMLIC		
0000			98-0654388				Barings Real Estate Advisers Europe LLP	GBR	NIA	Barings Real Estate UK Holdings Limited	Ownership		MMLIC		
	ļ						Barings Real Estate Advisers Europe Finance								
			98-0654412				LLP	GBR	NIA	Barings Real Estate UK Holdings Limited	Ownership		MMLIC		
0000	!		98-1194368				Barings Real Estate Advisers GmbH	DEU		Barings Real Estate UK Holdings Limited	Ownership	100.000	MMLIC		·
			98-0241935				Baring Asset Management Limited	GBR	NI A	MassMutual Holdings (Bermuda) Limited	Ownership		MMLIC		
0000			98-1012393				Barings Global Advisors Limited	GBR		Baring Asset Management Limited	Ownership		MMLIC		
0000							BCGSS 2 GP LLP	GBR		Baring Asset Management Limited	Ownership		MMLIC		
0000							Babson European Direct Lending 1 GP LLP	GBR		Baring Asset Management Limited	Ownership		MMLIC		
0000			98-0457328		0001568131		Baring International Investment Limited	GBR	NIA	Baring Asset Management Limited	Ownership		MMLIC		
	ļ						Baring International Investment Management								
			98-0457587				Holdings	GBR	NIA	Baring Asset Management Limited	Ownership		MMLIC		
							· · · · · · · · · · · · · · · · · · ·	1		Baring International Investment Management				1	
			98-0457576				Baring Asset Management UK Holdings Limited .	GBR	NIA	Holdings	Ownership		MMLIC		
										Baring Asset Management UK Holdings Limited					
0000			98-0465031				Baring Asset Management GmbH	DEU	NIA	5	Ownership	100.000	MMLIC	1	
									1		P				

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
											Туре	lf			
											of Control	Control			
											(Ownership,	is		ls an	
						Name of Securities			Relation-		Board.	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
0			ID	Endered			Parent, Subsidiaries			Dive atta O e este alle el les			Litting at a O a streetling a		,
Group	<b>A N</b>	Company		Federal	011/	(U.S. or		Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	
							Baring International Fund Managers (Ireland)			Baring Asset Management UK Holdings Limited					
0000			98-0524272				Limited	IRL	NI A		Ownership		MMLIC		
										Baring Asset Management UK Holdings Limited					
							Baring Asset Management Switzerland Sàrl	CHE	NI A		Ownership		MMLIC		
										Baring Asset Management UK Holdings Limited					
0000			98-0497550				Baring France SAS	FRA	NI A		Ownership		MMLIC		
			98-0457586				Baring Fund Managers Limited	GBR	NI A	Baring Asset Management Limited	Ownership	100.000	MMLIC		
0000			98-0457574				Baring Pension Trustees Limited	GBR	NI A	Baring Asset Management Limited	Ownership		MMLIC		
			98-0457578				Baring Investment Services Limited	GBR	NIA	Baring Asset Management Limited	Ownership	100.000	MMLIC		
			98-0432153				Barings (U.K.) Limited	GBR		Barings Guernsey Limited	Ownership		MMLIC		
					-		Barings GPC GP S.à. r.l	LUX	NIA	Barings (U.K.) Limitied	Ownership	100.000	MMLIC		
0000							Barings Investment Fund (LUX) GP S.à. r.I	LUX		Barings (U.K.) Limitied	Ownership		MMLIC		
0000							Almack Mezzanine GP III Limited	GBR		Barings (U.K.) Limitied	Ownership		MMLIC		
							Almack Holding Partnership GP Limited	GBR		Barings (U.K.) Limitied	Ownership		MMLIC		
0000							Almack Mezzanine Fund Limited	GBR		Barings (U.K.) Limitied	Ownership		MMLIC		
							Almack Mezzanine Fund II Limited	GBR	NI A	Barings (U.K.) Limitied	Ownership		MMLIC		
0000							Barings Multifamily Capital Holdings LLC	DE	NI A	Barings LLC	Ownership				
							Barings Multifamily Capital LLC	MI	NI A	Barings LLC	Ownership		MMLIC		
							Barings Multifamily Capital Corporation	DE	NI A	Barings LLC	Ownership				
			04-3238351	3456895	0001011148		Barings Real Estate Advisers Inc.	CA	NI A	Barings Real Estate Advisers LLC	Ownership		MMLIC		
			04-1590850				MassMutual Baring Holding LLC	DE	NI A	MassMutual Asset Management Holding LLC	Ownership		MMLIC		
			98-0241935	2363071	0000932463		Baring North America LLC	MA	NIA	MassMutual Baring Holding LLC	Ownership		MMLIC		
							MassMutual Holdings (Bermuda) Limited	BMU	NI A	MassMutual Baring Holding LLC	Ownership				
							-			Massachusetts Mutual Life Insurance	-				
							Agspring Holdco, LLC	DE	NI A	Company	Ownership				
			47-2642354				Alchemy Copyrights, LLC.	DE	NIA	MassMutual Holding LLC	Ownership/Influence				
										Massachusetts Mutual Life Insurance					
			81-2244465				Chassis Acquisition Holding LLC	DE	NIA	Company	Ownership/Influence		MMLIC		
			81-2244465				Chassis Acquisition Holding LLC	DE	NI A	Barings LLC	Influence		MMLIC		
										Massachusetts Mutual Life Insurance					
			81-4258759				CRA Aircraft Holding LLC	DE	NI A	Company	Ownership/Influence				
			81-4258759				CRA Aircraft Holding LLC	DE	NIA	Barings LLC	Influence		MMLIC		
										Massachusetts Mutual Life Insurance					
			46-2344300		.		Intermodal Holdings II LLC	DE	NIA	Company	Ownership		MMLIC		
			46-2344300				Intermodal Holdings II LLC	DE	NI A	Barings LLC	Influence		MMLIC		
			47-3055009		.		Milestone Acquisition Holding, LLC.	DE	NI A	MassMutual Holding LLC	Ownership/Influence		MMLIC		
1										Massachusetts Mutual Life Insurance					1
			47-3055009				Milestone Acquisition Holding, LLC	DE	NI A	Company	Ownership		MMLIC		
			47-3055009				Milestone Acquisition Holding, LLC.	DE	NI A	Barings LLC	Influence		MMLIC		
										Massachusetts Mutual Life Insurance					
			46-5460309				Red Lake Ventures, LLC	DE	NIA	Company	Ownership/Influence		MMLIC		
0000			46-5460309				Red Lake Ventures, LLC	DE	NI A	Barings LLC	Influence		MMLIC		
							-			Massachusetts Mutual Life Insurance					
0000			81-4065378				Remington L & W Holdings LLC	CT	NI A	Company	Ownership/Influence		MMLIC		
			81-4065378				Remington L & W Holdings LLC	CT	NIA	Barings LLC	Influence				
										Massachusetts Mutual Life Insurance					
			46-3123110				Sweet Tree Holdings 1, LLC	DE	NIA	Company	Ownership/Influence				
			46-3123110				Sweet Tree Holdings 1, LLC	DE	NI A	Barings LLC	Influence		MMLIC		
							• · · · · · · · · · · · · · · · · · · ·			Massachusetts Mutual Life Insurance					1
							Tamiami Citurus, LLC	DE	NI A	Company	Ownership				
0000							Teaktree Acquisition, LLC	DE	NI A	MassMutual Holding LLC	Ownership/Influence	14.700			
							Teaktree Acquisition, LLC	DE	NI A	Barings LLC	Influence		MMLIC		
							1			Massachusetts Mutual Life Insurance					
							U.S. Buver Broadcasting, LLC	DE	NIA	Company	Ownership/Influence	12,700	MMLIC		

	-	- 1		-	-	_	_	-							T
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
											Type	lf			
											of Control	Control			
											(Ownership,			ls an	
												is			
						Name of Securities			Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filina	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
0				E a da na l						Dive ether O e retrealle et here			Lillting at a Country Illing of		,
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
	•						U.S. Buyer Broadcasting, LLC	DE	NIA	Barings LLC	Influence	Ť	MMLIC	T Ý	
			46-1500495				U.S. WIG Holdings, LP	DE	NIA	MassMutual Holding LLC	Ownership/Influence		MNLIC		
0000			46-1500495				U.S. WIG Holdings, LP	DE		Barings LLC	Influence		MMLIC		
			40-1000490				U.S. WIG HOIDINGS, LP		NIA		Initidence		MMLIC		
										Massachusetts Mutual Life Insurance					
0000			46-0687392				US Pharmaceutical Holdings I, LLC	DE	NIA	Company	Management		MMLIC		
										Massachusetts Mutual Life Insurance					
			20-2970495				US Pharmaceutical Holdings II, LLC	DE	NI A	Company	Ownership/Influence	42.600	MMLIC		
			20-2970495				US Pharmaceutical Holdings II. LLC	DE	NIA	Barings LLC	Influence		MMLIC		
			20 20/0/00				oo mamaooarroar noranigo m, 220			Massachusetts Mutual Life Insurance					
.0000							Calar Assuigition Helding 110	DE	NIA		Ownership/Influence	20.000	MMLIC		
							Solar Acquisition Holding, LLC	DE DE		Company					
							Solar Acquisition Holding, LLC		NIA	Barings LLC	Management		MMLIC		
										Massachusetts Mutual Life Insurance		1	1	1	
							Validus Pharmaceuticals LLC	DE	NI A	Company	Ownership/Influence		MMLIC		
.0000							VGS Acquisition Holding, LLC	DE	NIA	MassMutual Holding LLC	Ownership/Influence	33,300	MALIC		
							VGS Acquisition Holding, LLC			Barings LLC	Management		MMLIC		
							Baring Asset-Based Income Fund (US) GP, LLC	DE		Barings LLC	Ownership	100.000	MMLIC		
									NIA	Barings LLC	Ownersnip		MMLIC		
							Babson Capital Floating Rate Income Fund								
			04-1590850		0001501011		Management, LLC	DE	NIA	Barings LLC	Ownership		MMLIC		
0000							Babson Global Loan Feeder Management, LLC	DE	NI A	Barings LLC	Ownership		MMLIC		
0000							Barings CLO Investment Partners GP, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
							Barings Global Energy Infrastructure			bui ingo 220					
0000								DE	NIA	Denimore III O	0	100,000	MMLIC		
0000							Advisors, LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
							Barings North American Private Loan Fund								
0000							Management, LLC	DE		Barings LLC	Ownership		MMLIC		
							Barings Global Real Assets Fund GP, LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
0000							Barings TERO Management LLC	DE	NIA	Barings LLC	Ownership	100.000	MMLIC		
			98-0536233				Benton Street Advisors, Inc.	CYM		Barings LLC	Ownership	100.000	MMLIC		
0000			04-1590850				Great Lakes III GP. LLC	DE		Barings LLC	Ownership	100.000	MMLIC		
			04-1590850												
0000							Lake Jackson LLC	DE		Barings LLC	Ownership		MMLIC		
0000			04-1590850				Loan Strategies Management LLC	DE		Barings LLC	Ownership	100.000	MMLIC		
0000			04-1590850				Mezzco LLC	DE DE	NI A	Barings LLC	Ownership		MMLIC		
			02-0767001				Mezzco II LLC	DE	NIA	Barings LLC	Ownership	98.400	MMLIC		
0000			41-2280126				Mezzco III LLC	DE		Barings LLC	Ownership	99.300	MMLIC		
0000			80-0920285				Mezzco IV LLC	DE		Barings LLC	Ownership	99.300	MILIC		
			90-0666326				Mezzco Australia LLC	DE		Barings LLC	Ownership		MMLIC		
							Mezzco Australia II LLC	DE	NI A	Barings LLC	Ownership	100.000	MMLIC		
.							Somerset Special Opportunities Management LLC							1	
			04-1590850				··· •	DE	NI A	Barings LLC	Ownership	100.000	MMLIC	l	
			84-1149206	2897101			Oppenheimer Acquisition Corp.	DE	NI A	MassMutual Asset Management Holding LLC	Ownership		MMLIC		
			13-2527171	2679183	0000820031		OppenheimerFunds. Inc.	CO	NIA	Oppenheimer Acquisition Corp.	Ownership	100.000	MMLIC		
				20/9103											
0000			13-2953455		0000276541		OppenheimerFunds Distributor, Inc.	NY	NI A	OppenheimerFunds, Inc.	Ownership		MMLIC		
0000			84-1106295				Oppenheimer Real Asset Management, Inc	DE	NI A	OppenheimerFunds, Inc	Ownership		MMLIC		
			13-4160541	3458125	0001179479		OFI Global Institutional, Inc.	NY	NIA	OppenheimerFunds, Inc.	Ownership		MMLIC		
0000			22-2697140				HarbourView Asset Management Corporation	NY	NI A	OFI Institutional Asset Management, Inc	Ownership		MMLIC		I
0000							OC Private Capital, LLC	DE		OFI Institutional Asset Management, Inc.	Ownership	51.000	MMLIC		
			13-3459790	2914875			OFI Global Trust Company	NY		OFI Institutional Asset Management, Inc	Ownership	100.000	MMLIC		
0000			10-0403130	2314013			OFI International. Ltd.	GBR				100.000	MMLIC		
										OFI Institutional Asset Management, Inc	Ownership				
							SNW Asset Management Corporation	DE		OFI Institutional Asset Management, Inc	Ownership		MNLIC		
0000			60-2233720				Seattle Northwest Asset Management LLC	WA	NI A	OFI Institutional Asset Management, Inc	Ownership		MMLIC		
0000			25-1951632		0000099782		Trinity Investment Management Corporation	PA	NI A	OFI Institutional Asset Management, Inc	Ownership		MMLIC		
0000			84-1128397		0000857468		OFI SteelPath. Inc.	DE	NIA	OppenheimerFunds, Inc.	Ownership	100.000	MMLIC		
			84-1066811		0000276398		Shareholder Services. Inc.	CO	NIA	OppenheimerFunds, Inc.	Ownership	100.000	MMLIC		
					0000210030		OFI Advisors . LLC	PA	NIA	OppenheimerFunds, Inc.	Ownership		MMLIC		
0000							Index Management Solutions, LLC	PA PA	NIA NIA		Ownership	100.000 100.000			
0000										OppenheimerFunds. Inc.					

1           Group Code          0000          0000          0000          0000          0000          0000          0000          0000          0000          0000          0000          0000          0000          0000          0000	2 Group Name	3 NAIC Company Code	4 5 ID Fede Number RSS 84-0765063 91-2036414 20-82-1210532 06-1121864 20-8215352 90-0874510 04-3313782 98-0610331 98-0610331 98-01033127		7 Name of Securities Exchange if Publicly Traded (U.S. or International)	8 Names of Parent, Subsidiaries OFI Global Asset Management, Inc. OFI Private Investments Inc. Tremont Group Holdings, LLC Tremont GP, LLC Settlement Agent, LLC Tremont (Bermuda) Limited MassMutual International LLC MassMutual Asia Limited MassMutual Asia Limited MassMutual Insurance Consultants Limited	9 Domi- ciliary Loca- tion DE. NY. DE. DE. DE. DE. HKG.	10 Relation- ship to Reporting Entity NIA NIA NIA NIA NIA NIA NIA NIA	11 Directly Controlled by (Name of Entity/Person) OppenheimerFunds, Inc. Oppenheimer Acquisition Corp. Tremont Group Holdings, Inc. Tremont Group Holdings, Inc. Tremont Group Holdings, Inc. Massachusetts Mutual Life Insurance Company MassMutual International LLC	12 Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other) Ownership. Ownership. Ownership. Ownership. Ownership. Ownership. Ownership. Ownership.	13 If Control is Owner- ship Provide Percen- tage 100.0000 100.00	14 Ultimate Controlling Entity(ies)/Person(s) ML1C ML1C ML1C ML1C ML1C ML1C ML1C ML1C	15 Is an SCA Filing Re- quired? (Y/N)	16 *
Code	Group Name	Company Code	Number         RSS           84-0765063	D CIK 0001041674 0001179480	Exchange if Publicly Traded (U.S. or	Parent, Subsidiaries Or Affiliates OFI Global Asset Management, Inc. OFI Private Investments Inc. Tremont Group Holdings, LLC Tremont GP, LLC Tremont GP, LLC Tremont (Bermuda) Limited MassMutual International LLC MassMutual Asia Limited MassMutual Guardian Limited	ciliary Loca- tion 	ship to Reporting NIA NIA NIA NIA NIA NIA NIA NIA NIA	(Name of Entity/Person) OppenheimerFunds, Inc. Oppenheimer Acquisition Corp. Tremont Group Holdings, Inc. Tremont Group Holdings, Inc. Tremont GP Tremont Group Holdings, Inc. Tremont Group Holdings, Inc. Massachusetts Mutual Life Insurance Company	of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other) Ownership. Ownership. Ownership. Ownership. Ownership. Ownership.	Control is Owner- ship Provide Percen- tage 100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000	Entity(ies)/Person(s) MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC	SCA Filing Re- quired?	*
Code	Group Name	Company Code	Number         RSS           84-0765063	D CIK 0001041674 0001179480	Exchange if Publicly Traded (U.S. or	Parent, Subsidiaries Or Affiliates OFI Global Asset Management, Inc. OFI Private Investments Inc. Tremont Group Holdings, LLC Tremont GP, LLC Tremont GP, LLC Tremont (Bermuda) Limited MassMutual International LLC MassMutual Asia Limited MassMutual Guardian Limited	ciliary Loca- tion 	ship to Reporting NIA NIA NIA NIA NIA NIA NIA NIA NIA	(Name of Entity/Person) OppenheimerFunds, Inc. Oppenheimer Acquisition Corp. Tremont Group Holdings, Inc. Tremont Group Holdings, Inc. Tremont GP Tremont Group Holdings, Inc. Tremont Group Holdings, Inc. Massachusetts Mutual Life Insurance Company	of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other) Ownership. Ownership. Ownership. Ownership. Ownership. Ownership.	is Owner- ship Provide Percen- tage 100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000	Entity(ies)/Person(s) MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC	SCA Filing Re- quired?	*
Code	Group Name	Company Code	Number         RSS           84-0765063	D CIK 0001041674 0001179480	Exchange if Publicly Traded (U.S. or	Parent, Subsidiaries Or Affiliates OFI Global Asset Management, Inc. OFI Private Investments Inc. Tremont Group Holdings, LLC Tremont GP, LLC Tremont GP, LLC Tremont (Bermuda) Limited MassMutual International LLC MassMutual Asia Limited MassMutual Guardian Limited	ciliary Loca- tion 	ship to Reporting NIA NIA NIA NIA NIA NIA NIA NIA NIA	(Name of Entity/Person) OppenheimerFunds, Inc. Oppenheimer Acquisition Corp. Tremont Group Holdings, Inc. Tremont Group Holdings, Inc. Tremont GP Tremont Group Holdings, Inc. Tremont Group Holdings, Inc. Massachusetts Mutual Life Insurance Company	(Ownership, Board, Management, Attorney-in-Fact, Influence, Other) Ownership. Ownership. Ownership. Ownership. Ownership. Ownership. Ownership.	is Owner- ship Provide Percen- tage 100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000	Entity(ies)/Person(s) MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC	SCA Filing Re- quired?	*
Code	Group Name	Company Code	Number         RSS           84-0765063	D CIK 0001041674 0001179480	Exchange if Publicly Traded (U.S. or	Parent, Subsidiaries Or Affiliates OFI Global Asset Management, Inc. OFI Private Investments Inc. Tremont Group Holdings, LLC Tremont GP, LLC Tremont GP, LLC Tremont (Bermuda) Limited MassMutual International LLC MassMutual Asia Limited MassMutual Guardian Limited	ciliary Loca- tion 	ship to Reporting NIA NIA NIA NIA NIA NIA NIA NIA NIA	(Name of Entity/Person) OppenheimerFunds, Inc. Oppenheimer Acquisition Corp. Tremont Group Holdings, Inc. Tremont Group Holdings, Inc. Tremont GP Tremont Group Holdings, Inc. Tremont Group Holdings, Inc. Massachusetts Mutual Life Insurance Company	Board, Management, Attorney-in-Fact, Influence, Other) Ownership. Ownership. Ownership. Ownership. Ownership. Ownership. Ownership.	Owner- ship Provide Percen- tage 100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000	Entity(ies)/Person(s) MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC	SCA Filing Re- quired?	*
Code	Group Name	Company Code	Number         RSS           84-0765063	D CIK 0001041674 0001179480	Exchange if Publicly Traded (U.S. or	Parent, Subsidiaries Or Affiliates OFI Global Asset Management, Inc. OFI Private Investments Inc. Tremont Group Holdings, LLC Tremont GP, LLC Tremont GP, LLC Tremont (Bermuda) Limited MassMutual International LLC MassMutual Asia Limited MassMutual Guardian Limited	ciliary Loca- tion 	ship to Reporting NIA NIA NIA NIA NIA NIA NIA NIA NIA	(Name of Entity/Person) OppenheimerFunds, Inc. Oppenheimer Acquisition Corp. Tremont Group Holdings, Inc. Tremont Group Holdings, Inc. Tremont GP Tremont Group Holdings, Inc. Tremont Group Holdings, Inc. Massachusetts Mutual Life Insurance Company	Management, Attorney-in-Fact, Influence, Other) Ownership	ship Provide Percen- tage 100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000	Entity(ies)/Person(s) MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC	Filing Re- quired?	*
Code	Group Name	Company Code	Number         RSS           84-0765063	D CIK 0001041674 0001179480	if Publicly Traded (U.S. or	Parent, Subsidiaries Or Affiliates OFI Global Asset Management, Inc. OFI Private Investments Inc. Tremont Group Holdings, LLC Tremont GP, LLC Tremont GP, LLC Tremont (Bermuda) Limited MassMutual International LLC MassMutual Asia Limited MassMutual Guardian Limited	ciliary Loca- tion 	to Reporting Entity NIA NIA NIA NIA NIA NIA NIA NIA IA	(Name of Entity/Person) OppenheimerFunds, Inc. Oppenheimer Acquisition Corp. Tremont Group Holdings, Inc. Tremont Group Holdings, Inc. Tremont GP Tremont Group Holdings, Inc. Tremont Group Holdings, Inc. Massachusetts Mutual Life Insurance Company	Attorney-in-Fact, Influence, Other) Ownership	Provide Percen- tage 100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000	Entity(ies)/Person(s) MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC	Re- quired?	*
Code	Group Name	Company Code	Number         RSS           84-0765063	D CIK 0001041674 0001179480	(U.Ś. or	Parent, Subsidiaries Or Affiliates OFI Global Asset Management, Inc. OFI Private Investments Inc. Tremont Group Holdings, LLC Tremont GP, LLC Tremont GP, LLC Tremont (Bermuda) Limited MassMutual International LLC MassMutual Asia Limited MassMutual Guardian Limited	Loca- tion 	Reporting           NIA           IA	(Name of Entity/Person) OppenheimerFunds, Inc. Oppenheimer Acquisition Corp. Tremont Group Holdings, Inc. Tremont Group Holdings, Inc. Tremont GP Tremont Group Holdings, Inc. Tremont Group Holdings, Inc. Massachusetts Mutual Life Insurance Company	Influence, Other) Ownership. Ownership. Ownership. Ownership. Ownership. Ownership. Ownership.	Percen- tage 100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000	Entity(ies)/Person(s) MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC	quired?	*
Code	Group Name	Code	Number         RSS           84-0765063	D CIK 0001041674 0001179480		Or Affiliates OFI Global Asset Management, Inc OFI Private Investments Inc Tremont Group Holdings, LLC Tremont GP, LLC Settlement Agent, LLC Tremont (Bermuda) Limited MassMutual International LLC MassMutual Asia Investors Ltd. MassMutual Guardian Limited	tion DE NY NY CT DE DE BMU DE BKG HKG	Éntity NIA NIA NIA NIA NIA NIA NIA NIA NIA	(Name of Entity/Person) OppenheimerFunds, Inc. Oppenheimer Acquisition Corp. Tremont Group Holdings, Inc. Tremont Group Holdings, Inc. Tremont GP Tremont Group Holdings, Inc. Tremont Group Holdings, Inc. Massachusetts Mutual Life Insurance Company	Other) Ownership	tage 100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000	Entity(ies)/Person(s) MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC MLIC		*
. 0000 . 0000	Group Name		84-0765063	0001041674 0001179480	International)	OFI Global Asset Management, Inc. OFI Private Investments Inc. Tremont Group Holdings, LLC. Tremont Partners, LLC Tremont GP, LLC Settlement Agent, LLC Tremont (Bermuda) Limited MassMutual International LLC MassMutual Asia Investors Ltd. MassMutual Guardian Limited		NIA NIA NIA NIA NIA NIA NIA NIA	OppenheimerFunds, Inc. OppenheimerFunds, Inc. Oppenheimer Acquisition Corp. Tremont Group Holdings, Inc. Tremont GP Tremont GP Tremont Group Holdings, Inc. Massachusetts Mutual Life Insurance Company	Ownership	100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000	MALIC           MALIC	· (Y/N)	*
. 0000 . 0000			84-0765063	0001041674 0001179480		OFI Private Investments Inc. Tremont Group Holdings, LLC Tremont Partners, LLC Settlement Agent, LLC Tremont (Bermuda) Limited MassMutual International LLC MassMutual Asia Investors Ltd. MassMutual Guardian Limited		NIA NIA NIA NIA NIA NIA NIA NIA	OppenheimerFunds, Inc. OppenheimerFunds, Inc. Oppenheimer Acquisition Corp. Tremont Group Holdings, Inc. Tremont GP Tremont GP Tremont Group Holdings, Inc. Massachusetts Mutual Life Insurance Company	Ownership	100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000	MALIC           MALIC		
. 0000 . 0000			91-2036414 62-1210532 06-1121864 90-0874510 04-3313782 98-0610331	0001179480		OFI Private Investments Inc. Tremont Group Holdings, LLC Tremont Partners, LLC Settlement Agent, LLC Tremont (Bermuda) Limited MassMutual International LLC MassMutual Asia Investors Ltd. MassMutual Guardian Limited		NIA NIA NIA NIA NIA NIA NIA NIA NIA	OppenheimerFunds, Inc. Oppenheimer Acquisition Corp. Tremont Group Holdings, Inc. Tremont Group Holdings, Inc. Tremont GP Tremont Group Holdings, Inc. Massachusetts Mutual Life Insurance Company	Ownership	100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000	MALIC		
. 0000 . 0000			62-1210532 06-1121864 20-8215352 90-0874510 04-3313782 98-0610331			Tremont Group Holdings, LLC Tremont Partners, LLC Settlement Agent, LLC Tremont (Bermuda) Limited MassMutual International LLC MassMutual Asia Limited MassMutual Gardian Limited		NIA NIA NIA NIA NIA IA	Oppenheimer Acquisition Corp Tremont Group Holdings, Inc Tremont Group Holdings, Inc Tremont GP Tremont Group Holdings, Inc Massachusetts Mutual Life Insurance Company	Ownership Ownership Ownership. Ownership. Ownership. Ownership.	100.000 100.000 100.000 100.000 100.000 100.000 100.000	MMLIC	  	
. 0000 . 0000			06-1121864 20-8215352 90-0874510 04-3313782 98-0610331	0000764139		Tremont Partners, LLC Tremont GP, LLC Settlement Agent, LLC Tremont (Bermuda) Limited MassMutual International LLC MassMutual Asia Limited MassMutual Guardian Limited		NIA NIA NIA NIA NIA	Tremont Group Holdings, Inc Tremont Group Holdings, Inc Tremont GP Tremont Group Holdings, Inc Massachusetts Mutual Life Insurance Company	Ownership Ownership Ownership Ownership Ownership	100.000 100.000 100.000 100.000 100.000	MMLIC	 	
			20-8215352 90-0874510 04-3313782 98-0610331			Tremont GP, LLC Settlement Agent, LLC Tremont (Bermuda) Limited MassMutual International LLC MassMutual Asia Limited MassMutual Guardian Limited	DE DE BMU DE HKG	NIA NIA NIA NIA	Tremont Group Holdings, Inc Tremont GP Tremont Group Holdings, Inc	Ownership Ownership Ownership Ownership	100.000 100.000 100.000 100.000	MALIC	  Y	
			90-0874510 04-3313782 98-0610331			Settlement Agent, LLC Tremont (Bermuda) Limited MassMutual International LLC MassMutual Asia Limited MassMutual Guardian Limited	DE BMU DE HKG HKG	NIA NIA NIA	Tremont GP Tremont Group Holdings, Inc. Massachusetts Mutual Life Insurance Company	Ownership Ownership Ownership		- MMLIC	Y	
			98-0610331		-	Tremont (Bermuda) Limited MassMutual International LLC MassMutual Asia Limited MassMutual Asia Investors Ltd MassMutual Guardian Limited	BMU DE HKG HKG	NIA NIA IA	Tremont Group Holdings, Inc. Massachusetts Mutual Life Insurance Company	Ownership Ownership	100.000 100.000 100.000	. MMLIC	Y	
			98-0610331		· · · · · · · · · · · · · · · · · · ·	MassMutual International LLC MassMutual Asia Limited		NIA	Massachusetts Mutual Life Insurance Company	Ownership			Y	
			98-0610331			MassMutual Asia Limited MassMutual Asia Investors Ltd MassMutual Guardian Limited		IA	Company				ΥΥ	
			98-0610331	·····	-	MassMutual Asia Limited MassMutual Asia Investors Ltd MassMutual Guardian Limited		IA					Ÿ	1
						MassMutual Asia Investors Ltd MassMutual Guardian Limited	HKG		MassMutual International LLC	Ownership		MML IC		
						MassMutual Guardian Limited								
								NIA	MassMutual Asia Limited	Ownership	100.000	MMLIC	-	·
		   				MassMutual Insurance Consultants Limited	HKG	NI A	MassMutual Asia Limited	Ownership		MMLIC		
0000 0000 0000 0000 0000 0000 0000 0000 0000							HKG	NI A	MassMutual Asia Limited	Ownership		_ MMLIC		
						MassMutual Services Limited	HKG	NI A	MassMutual Asia Limited	Ownership		_ MMLIC		
						MassMutual Trustees Limited	HKG	NI A	MassMutual Asia Limited	Ownership	80.000	MMLIC		
0000 0000 0000 0000 0000 0000 0000			98-1033127			Protective Capital (International) Limited .	HKG	NI A	MassMutual Asia Limited	Ownership				
						MassMutual Internacional (Chile) SpA		NI A	MassMutual International LLC	Ownership	100.000	MMLIC		
						MassMutual Life Insurance Company	JPN	IA	MassMutual International LLC	Ownership	100.000	MMLIC		
0000 0000 0000 0000									Massachusetts Mutual Life Insurance					
0000 0000 0000 0000			04-2443240			MML Management Corporation	MA	NIA	Company	Ownership	100.000	MMLIC	Y	
0000 0000 0000			04-3341767			MassMutual Holding MSC, Inc.	MA	NIA	MML Management Corporation	Ownership	100.000	MMLIC		
			04-3548444			MassMutual International Holding MSC, Inc.		NIA	MML Management Corporation	Ownership		MMLIC		
						wassmutual international norunny moc, inc.			Massachusetts Mutual Life Insurance	owner strip				
0000			04-1590850			MML Mezzanine Investor II, LLC		NIA		Ownership	100.000	MMLIC		
			04-1090600			which wezzarrine investor if, LLC		NIA	Company Massachusetts Mutual Life Insurance	ownership				
			04 4500050				05			a 1.	400,000	144 10		
0000			04-1590850			MML Mezzanine Investor III, LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
									Massachusetts Mutual Life Insurance					
			27-3576835			MassMutual External Benefits Group LLC	DE	NI A	Company	Ownership		_ MMLIC		
									Massachusetts Mutual Life Insurance					
0000			20-8730751			Cornerstone Global REIT Corporation	DE	NIA	Company	Ownership		_ MMLIC		
									Massachusetts Mutual Life Insurance					
			04-1590850			100 w. 3rd Street LLC	DE	NIA	Company	Ownership				
									Massachusetts Mutual Life Insurance					
			82-2432216			300 South Tryon Hotel LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
									Massachusetts Mutual Life Insurance					
			04-1590850			300 South Tryon LLC	DE	NI A	Company	Ownership	100.000	MMLIC	.	
				1					Massachusetts Mutual Life Insurance					
			20-3887968			54 West Capital LLC	DE	NI A	Company	Ownership	100.000	MMLIC	.	
									Massachusetts Mutual Life Insurance					
						Almack Mezzanine Fund   LP	GBR	NIA	Company	Ownership/Influence		MMLIC		1
						Almack Mezzanine Fund I LP	GBR	NIA	C.M. Life Insurance Company	Ownership	4,600	MMLIC	-	1
						Almack Mezzanine Fund I LP		NIA	Barings (U.K.) Limitied	Management.				
							1		Massachusetts Mutual Life Insurance	munugomon (			-	1
						Almack Mezzanine Fund II Unleveraged LP		NIA	Company	Ownership/Influence		MMLIC		1
						Almack Mezzanine Fund II Unleveraged LP	GBR	NIA	Barings (U.K.) Limitied	Management		MMLIC		
						A IMAGE MEZZAITTIE FUTU IT UTTEVELAYEU LF			Massachusetts Mutual Life Insurance	manayonent.		. mm∟ i ∪		
0000						Almack Mezzanine Fund III LP	GBR	NIA	Massachusetts Mutual Life Insurance Company	Ownership/Influence	34,200	MMLIC		1
0000													-	
						Almack Mezzanine Fund III LP		NI A	C.M. Life Insurance Company	Ownership	3.800	MMLIC	-	+
						Almack Mezzanine Fund III LP	GBR	NI A	Barings (U.K.) Limitied	Management		MMLIC		
									Massachusetts Mutual Life Insurance					1
			36-4868350			Barings Asset-Based Income Fund (US) LP	DE	NI A	Company	Ownership/Influence	0.000	MMLIC		
		1	36-4868350			Barings Asset-Based Income Fund (US) LP	DE	NI A	Barings LLC	Management		_ MMLIC		
				1		Barings Emerging Markets Corporate Bond Fund			Massachusetts Mutual Life Insurance					
				1			IBL	NIA	Company	Ownership/Influence		MMLIC		1

· · ·				-	_	-	-							T :-
1	2	3 4	5	6	7	8	9	10	11	12	13	14	15	16
										Туре	lf			
										of Control	Control			
										(Ownership,	is		ls an	
					Name of Securities			Relation-		Board.	Owner-		SCA	
					Exchange		Domi-	ship		Management,	ship		Filing	
		NAIO												
-		NAIC			if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
						Barings Emerging Markets Corporate Bond Fund								
0000							IRL	NIA	Barings LLC	Management		MMLIC		
						Barings Global Special Situations Credit Fund			Massachusetts Mutual Life Insurance					
0000						1	IRL	NIA	Company	Ownership/Influence				
						Barings Global Special Situations Credit Fund								
						1	IRL	NIA	Barings LLC	Management				
						Babson Capital Global Special Situation			Massachusetts Mutual Life Insurance					
0000		98-1206017				Credit Fund 2	DE	NIA	Company	Ownership/Influence		MMLIC		
						Babson Capital Global Special Situation			company					
		98-1206017				Credit Fund 2	DE	NIA	C.M. Life Insurance Company	Ownership		MMLIC		
		30-1200017				Babson Capital Global Special Situation			C.W. Life Hisurance company	owner simp				
0000		98-1206017				Credit Fund 2	DE	NIA	Barings LLC	Management		MMLIC	1	
		96-1200017				creatt Funa 2		NIA	Massachusetts Mutual Life Insurance	management.				
0000		07 1506417				Debug Os its Live Otestasias Fund L.D.	DE	NIA		A marking the floorest	70 100	144 10		
0000						Babson Capital Loan Strategies Fund, L.P			Company	Ownership/Influence				
						Babson Capital Loan Strategies Fund, L.P	DE	NI A	C.M. Life Insurance Company	Ownership				
0000						Babson Capital Loan Strategies Fund, L.P	DE	NI A	Barings LLC	Management		MMLIC		
									Massachusetts Mutual Life Insurance					
						Barings US High Yield Bond Fund	IRL	NI A	Company	Ownership/Influence		MMLIC		
0000						Barings US High Yield Bond Fund	IRL	NI A	C.M. Life Insurance Company	Ownership		MMLIC		
0000						Barings US High Yield Bond Fund	IRL	NIA	Barings LLC	Management		MMLIC		
0000						Babson CLO Ltd. 2012-II	CYM	NI A	Barings LLC	Influence		MMLIC		
						Babson CLO Ltd. 2013-1	CYM	NIA	Barings LLC	Influence		. MMLIC		
		98-1128827				Babson CLO Ltd. 2013-11	CYM	NIA	Barings LLC	Influence		MMLIC		4
0000						Babson CLO Ltd. 2014-1	CYM	NIA	Barings LLC	Influence		MMLIC		2
0000						Babson CLO Ltd. 2014-11	CYM	NIA	Barings LLC	Influence		MMLIC		5
						Babson CLO Ltd. 2014-111	CYM		Barings LLC	Influence.		MMLIC		
						Babson CLO Ltd. 2014-111	CYM	NIA	Barings LLC	Influence				6
0000						Babson CLO Ltd. 2015-1	CYM		Barings LLC	Influence				0 7
								NIA						
0000						Babson CLO Ltd. 2016-1	CYM		Barings LLC	Influence				
0000						Babson CLO Ltd. 2016-11	CYM	NIA	Barings LLC	Influence				
						Barings CLO Ltd. 2017-1	CYM	NI A	Barings LLC	Influence		MMLIC		
						Babson Euro CLO 2014-1 BV	NLD		Barings LLC	Influence		MMLIC		
0000						Babson Euro CLO 2014-II BV	NLD	NI A	Barings LLC	Influence		MMLIC		
						Babson Euro CLO 2015-I BV	NLD	NIA	Barings LLC	Influence		MMLIC		
0000						Babson Euro CLO 2016-I BV	NLD	NI A	Barings LLC	Influence		MMLIC		
									Massachusetts Mutual Life Insurance					
		81-0841854				Barings CLO Investment Partners LP	DE	NIA	Company	Ownership/Influence		MMLIC		
		81-0841854				Barings CLO Investment Partners LP	DE	NIA	Barings LLC	Management		MMLIC		
						Barings Real Estate European Value Add   SCSp			Massachusetts Mutual Life Insurance					
							GBR	NIA	Company	Ownership/Influence		MMLIC	1	
						Barings Real Estate European Value Add I SCSp								
			1 I			Satings near Lotate Laropean varue nud 1 doop	GBR	NIA	C.M. Life Insurance Company	Ownership		MMLIC	1	
						Barings Real Estate European Value Add   SCSp	nun		o.m. Lite insurance company	owner ant p		mm_IV		
0000						Darmys near Estate European value and 1 505p	CDD	NIA	Designs 110	Nama gaman t		MMLIC	1	
000ע							GBR	NI A	Barings LLC	Management				
0000							DF		Massachusetts Mutual Life Insurance		40.000	184 10	1	
0000						Baring Focused EAFE Equity Fund	DE	NI A	Company	Ownership/Influence				
0000		11–3789446				Baring Focused EAFE Equity Fund	DE	NI A	Baring Asset Management Limited	Management		MMLIC		
						Barings Global Energy Infrastructure Fund I			Massachusetts Mutual Life Insurance					
						LP	CYM	NIA	Company	Ownership/Influence		MMLIC		
1						Barings Global Energy Infrastructure Fund I							1	
		98-1332384				LP	CYM	NIA	Baring Asset Management Limited	Management		. MMLIC		
									Massachusetts Mutual Life Insurance					
			1 I			Barings Global Private Loan Fund	LUX	NIA	Company	Ownership/Influence		MMLIC	1	
0000						Barings Global Private Loan Fund	LUX	NIA	Barings LLC	Management		MML IC		
						Darniya urubar Frivate Ludii Funu	LUA		Dai niyo LLU	manayement				

1	2	3 4	5	6	7	8	9	10	11	12	13	14	15	16
					1					Туре	lf			
										of Control	Control			
										(Ownership,	is		ls an	
					Name of Securities			Relation-		Board,	Owner-		SCA	
							Dami						Filing	
					Exchange		Domi-	ship		Management,	ship		3	
		NAIC			if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company IE			(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	2
Code	Group Name	Code Num	ber RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
0000					· · · · · · · · · · · · · · · · · · ·	Barings Middle Market CLO 2017-I Ltd & LLC	CYM	NIA	Barings LLC	Influence		MMLIC		
									Massachusetts Mutual Life Insurance					
0000		38-4010	844			Barings North American Private Loan Fund LP	DE	NIA	Company	Ownership/Influence	45,600	MMLIC		
		38-4010				Barings North American Private Loan Fund LP			Baring Asset Management Limited	Management		MMLIC		
						barnigs north Anerican Frivate Eban Fund Er			Massachusetts Mutual Life Insurance	management				
		98-1332	004			Barings RE Credit Strategies VII LP	DE	NIA	Company	Ownership/Influence		MMLIC		
0000		98-1332					DE	NIA	Baring Asset Management Limited	Management		MILIC		
						Barings RE Credit Strategies VII LP		NIA						
									Massachusetts Mutual Life Insurance					
						Baring International Small Cap Equity Fund	DE	NIA	Company	Ownership/Influence		MILIC		
						Baring International Small Cap Equity Fund	DE	NI A	Baring Asset Management Limited	Management		MMLIC		
							1		Massachusetts Mutual Life Insurance				1	
						Braemar Energy Ventures I, L.P	DE	NI A	Company	Ownership/Influence		MMLIC		
						Braemar Energy Ventures I, L.P.	DE	NI A	C.M. Life Insurance Company	Ownership		MMLIC		
						Braemar Energy Ventures I, L.P.	DE	NI A	Barings LLC	Management		MMLIC		
						Barings European Core Property Fund SCSp	LUX	NIA	MassMutual Holding LLC	Ownership/Influence		MMLIC		
						Barings European Core Property Fund SCSp	LUX	NIA	C.M. Life Insurance Company	Ownership		MMLIC		
						Barings European Core Property Fund SCSp	LUX.	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
0000		27-1701	322	0001481752		Cornerstone Core Mortgage Venture   LP	DE	NIA	MassMutual Holding LLC	Ownership/Influence		MILIC		
				0001481752		Cornerstone Core Mortgage Venture   LP			Barings Real Estate Advisers LLC	Management		MMLIC		
						corrierscone core mor cyage venture i LF			Massachusetts Mutual Life Insurance	manayement.				
0000		45.0754	-70	0004504077			05				44,400	188.10		
		45-3751		0001534877		Cornerstone Enhanced Mortgage Fund I LP	DE	NIA	Company	Ownership/Influence	14.100			/
		45–3751		0001534877		Cornerstone Enhanced Mortgage Fund I LP	DE	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
									Massachusetts Mutual Life Insurance					
						Cornerstone Global Real Estate LP	DE	NIA	Company	Ownership/Influence		MMLIC		
						Cornerstone Global Real Estate LP	DE	NI A	C.M. Life Insurance Company	Ownership	7.600	MMLIC		
			751			Cornerstone Global Real Estate LP	DE	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
									Massachusetts Mutual Life Insurance					
			946	0001590049		Cornerstone High Yield Venture LP	DE	NI A	Company	Ownership/Influence		MMLIC		
			946	0001590049		Cornerstone High Yield Venture LP	DE	NI A	Barings Real Estate Advisers LLC	Management		MMLIC		
		20-5578				Barings Core Property Fund LP	DE	NIA	MassMutual Holding LLC	Ownership/Influence		MMLIC		
0000		20-5578				Barings Core Property Fund LP	DE	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
						Sarrigo coro rroporto rana El			Massachusetts Mutual Life Insurance					
0000			156			Cornerstone Real Estate Fund VIII LP	DE	NIA	Company	Ownership/Influence	6.000	MMLIC		
0000		27-0547	156			Cornerstone Real Estate Fund VIII LP	DE	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
									Massachusetts Mutual Life Insurance					
		46-5432	10			Cornerstone Real Estate Fund X LP	DE.	NIA	Company	Ownership/Influence	24.700	MMLIC		
		46-5432				Cornerstone Real Estate Fund X LP	DE	NIA	C.M. Life Insurance Company	Ownership		MMLIC		
			519			Cornerstone Real Estate Fund X LP	DE	NI A	Barings Real Estate Advisers LLC	Management		MMLIC		
									Massachusetts Mutual Life Insurance					
			141			Barings/LAZ Parking Fund LP	DE	NI A	Company	Ownership/Influence				
			141			Barings/LAZ Parking Fund LP	DE	NIA	Barings Real Estate Advisers LLC	Management		MMLIC		
						Duchess VI CLO B.V.	GBR	NI A	Barings LLC	Influence		MMLIC		
0000			4007502			Duchess VII CLO B.V.	GBR	NIA	Barings LLC	Influence		MMLIC		
									Massachusetts Mutual Life Insurance					
0000		20-3887	890			E-Wise Land Venture LLC	DE	NIA	Company	Ownership	100,000	MMLIC		
		20 3007							Massachusetts Mutual Life Insurance	•				
0000			053	0001517196		Gateway Mezzanine Partners I, L.P.	DE	NIA	Company	Ownership/Influence		MILIC	1	
								NIA						
				0001517196		Gateway Mezzanine Partners I, L.P.	DE		C.M. Life Insurance Company	Ownership	7.700	- MMLIC		
.0000		80–0691	203	0001517196		Gateway Mezzanine Partners I, L.P.	DE	NIA	Barings LLC	Management		MMLIC		
									Massachusetts Mutual Life Insurance				1	
				0001597511		Gateway Mezzanine Partners II LP	DE	NIA	Company	Ownership/Influence		MMLIC		
				0001597511		Gateway Mezzanine Partners II LP	DE	NI A	C.M. Life Insurance Company	Ownership		MMLIC		
			195	0001597511		Gateway Mezzanine Partners II LP	DE	NIA	Barings LLC	Management		MMLIC		

1         2         3         4         5         6         7         8         9         10         11         12         12         13           Group         NAC         NAC         Example         Name of Securities	15	5 10
Image: Properties         Image: Properies         Properopries         Properies         Pr		
Image: Section of the secting of the secting of the sectin		
Coop         Name of Securities Scrupping         Name of Securities Exclusions         Name of Securities Parent, Singularised Parent, Singularised		
NANG Group Name         NAME Computing Construction         Name of Securities Parents, Socialization (Code)         Name of Securities Parents, Socialization (Code)         Parents, Socialization (Cod	ls an	<b>an</b>
Brack Group Name         NAC Corport         NAM         Provide Corport         Exchange Participation         Open Sparticipation         Ship Sparticipation         Ship Sparticipat		
Code         Number         Feed of the comparing	SCA	
Group Name         Comp Name         Conde Note         Report Note         Directly Controlled by Otherwice, Name of Entity (Research Statistication)         Print Name of Entity (Research Statistication)         Directly Controlled by Otherwice, Name of Entity (Research Statistication)         Print Name of Entity (Research Statistication)         Directly Controlled by Otherwice, Name of Entity (Research Statistication)         Print Name of Entity (Research Statistication)         Directly Controlled by Otherwice, Name of Entity (Research Statistication)         Directly Controlled by Otherwice, Name of Entity (Research Statistication)         Directly Controlled by Otherwice, Name of Entity (Research Statistication)         Directly Controlled by Otherwice, Name of Entity (Research Statistication)         Directly Controlled by Otherwice, Name of Entity (Research Statistication)         Directly Controlled by Otherwice, Name of Entity (Research Statistication)         Directly Controlled by Otherwice, Name of Entity (Research Statistication)         Directly Controlled by Otherwice, Name of Entity (Research Statistication)         Directly Controlled by Otherwice, Name of Entity (Research Statistication)         Directly (Research Statistication)	Filing	ing
Group Name         Comp Name         Comp Name         Code Concup Name         Code Name of Entity (Second of Lage Control (Second Second	Re-	e-
Code         Group Name         Code         Number         RSSD         OK         International/         Or Allialase         tion         Entry/er         Other Pris/er         Doer hip/Informe         DOP //         tage         Entry/er           000         0         27-17882         000980577         Great Lass III, L.P.         D.         N.A.         Screenty         Deer hip/Informe         D.7.         PLIC           000         0         9-17882         000980577         Great Lass III, L.P.         D.         N.A.         Deer hip/Informe         D.7.         PLIC         N.A.         Deer hip/Informe         D.7.         PLIC         N.A.         Deer hip/Informe         D.7.         PLIC         N.G.         Deer hip/Informe         D.7.         PLIC         Deerh		
BOD         Dr. 19821         OC 09577         Oref Lates III, L.P.         Dec.         N.         Normality         December 19 kult Life Instance         December 19 kult L		
1000         17-70823         00019877         0ret Lass III, L.P.         0.         N.A.         Company         Description (Infrared Section 2000)         M.L C           0000         07-70823         00019877         Gret Lass III, L.P.         0.         N.A.         Description (Infrared Section 2000)         N.A.         Description (Infrared	1501(5) (1/14)	(11)
0.000         0.01 <t< td=""><td></td><td></td></t<>		
0.00         0-159260         0-159260         0-159260         0-159260         0-159260         0-159260         0-000		
000         01-198900         01-198900         01-198900         <		
Bool         Sector         Sector <td></td> <td></td>		
000         MM         MA         Barring LC         Management         MAL           000         89-402059         20-387768         20-387687         20-387687		
000         001         010 <td></td> <td></td>		
000         38-40209         001         20-38798         001         002         003         003         004         005         006         006         007         006         007         006         007         007         007         008         <		
000         38-40209         001         20-38798         001         002         003         003         004         005         006         006         007         006         007         006         007         007         007         008         <		
D00         Company         Description         Numerity         Description         Numerity         Description         Descrestriptin         Descrestription <thdescr< td=""><td></td><td></td></thdescr<>		
J.000         20.387/86         Azeell Reity Partners LLC         JE         Ni A.         Company         Omership         100.00         ML C           J.000         82-15/291         MS-MN Vector JP         BE         Ni A.         Company         Omership / Influence         90.00         ML C           J.000         46-425507         MS-MN Vector JP         DE         Ni A.         Company         Omership / Influence         90.00         ML C           J.000         85-000420         MB ob Participations LLC         DE         Ni A.         Company         Mu C         Mu C<		
.000     82-15/251     NRA     Bisschust 18 Mutal Life Insurance     Onership/Influence     90.00     MLC       .000     46-425537     NRA     Disschust 18 Mutal Life Insurance     Onership/Influence     90.00     MLC       .000     81-300420     NRA     Disschust 18 Mutal Life Insurance     Onership/Influence     100.00     MLC       .000     81-300420     NRA     Disschust 18 Mutal Life Insurance     Onership/Influence     100.00     MLC       .000     81-300420     NRA     Disschust 18 Mutal Life Insurance     Onership/Influence     100.00     MLC       .000     20-387682     NRA     Disschust 18 Mutal Life Insurance     Onership/Influence     Insurance     Onership/Influence     NRLC       .000     20-387682     Okieg Frage Frage Frage Frage     Disk forse Gevelopment LLC     DE     NRA     Disschust 18 Mutal Life Insurance     Onership     100.000     MLIC       .000     20-387682     Disk forse Gevelopment LLC     DE     NRA     Disschust 18 Mutal Life Insurance     Onership     100.000     MLIC       .000     30-0713071     Rise Pritein LLC     DE     NRA     Disschust 18 Mutal Life Insurance     Onership     Influence     100.000     MLIC       .000     54-205778     Rise Pritein LLC     DE     NRA <td></td> <td></td>		
L000         B2-15/281         M         MR-M Vector LP         DE         N/A         Organy         Omerating Influence         90.00         MLIC           .000         61-300420         Marco bitel LLC         DE         N/A         Organy         Omerating Influence         100.00         MLIC           .000         81-300420         MI Det Participations LLC         DE         N/A         Organy         Omerating Influence         100.00         MLIC           .000         81-300420         MI Det Participations LLC         DE         N/A         Organy         Omerating Influence         100.00         MLIC           .000         20-399762         MI Det Participations LLC         DE         N/A         Grapary         Omerating Influence         0merating Influenc		
Lono         Harco Hole LLC         DE         NA.         Company         Onership         100.00         ML C           0000         81-300420         MI Det Participations LLC         DE         NA.         Barco Hule Llfe Insurance         Descriptions ILC         Descriptions ILC         Descriptions ILC         Descriptions ILC         Descriptions ILC         Descriptions ILC         NA.         Barco Hule Llfe Insurance         Descriptions ILC         Descript		
Londo         Sit-Socote2o         Mil Det Participations LLC         DE         NNA         Company         Omership/Influence         100.000         Mil IC           0000         26-3799762         Mil Det Participations LLC         JE         NNA         Barings LLC         Mil Det Participations LLC         Mil Det Participations LLC         Jeinership/Influence         100.000         Mil IC           0000         26-3799762         Mil Det Participations LLC         JE         NNA         Saschuetts Mulual Life Insurance         Omership/Influence         100.000         Mil IC           0000         20-3887868         Mil Det Participations LLC         JE         NNA         Company         Omership         100.000         Mil IC           0000         20-3887868         Mil Det Participations LLC         JE         NNA         Company         Omership         100.000         Mil IC           0000         20-3887868         Mil Det Participations LLC         JE         NNA         Company         Omership         100.000         Mil IC           0000         20-3887868         Mil Det Participations LLC         JE         NNA         Company         Omership         100.000         Mil IC           0000         Mil Det Participations LLC         JE         NNA <td></td> <td></td>		
L.0000         B1-300420         ML Debt Participations LLC         DE         NIA         Barings LLC         Mangement         Mull C           .0000		
D00         26-379762         MIL         VHL         Description         Massachusetts Mutal Life Insurance Massachusetts Mutal Life Insurance         Derership.         100.000         Mull C           000         20-388788         0akley Grove Development LLC         DE         NA         Corpany         Derership.         100.000         Mull C           0000         20-388788         0akley Grove Development LLC         DE         NA         Corpany         Derership.         100.000         Mull C           0000         20-388788         0ld Pasco Properties LLC         DE         NA         Corpany         Derership.         100.000         Mull C           0000         75-290161         Reston Arboretun LC         DE         NA         Corpany         Derership.         100.000         Mull C           0000         30-0713071         Reston Arboretun LC         DE         NA         Corpany         Derership.         100.000         Mull C           0000         9-0713071         Reston Arboretun LC         DE         NA         Corpany         Derership.         100.000         Mull C           0000         9-0713071         Reston Arboretun LC         DE         NA         Corpany         Derership.         100.000         Mull C		
0000		
0000		
0000         30-0336246         0001345379         Tower Square Capital Partners II, L.P.         DE         NIA         Company         Ownership/Influence         22.400         MMLIC          0000		
Massachusetts Mutual Life Insurance		
1000 Towar Source La Le DE NLA Company Department / Defunction 06.000 MM LC		
D000		
Wassachusetts Nutual Life Insurance		
000		
10000		
Massachusetts Mutual Life Insurance		
Massachusetts Mutual Life Insurance		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	2	5	4	5	0	1	0	9	10	11	Type	lf	14	15	10
											of Control	Control			
														10.00	
											(Ownership,	is		ls an	
						Name of Securities			Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
0000			80-0920367		0001598727		Tower Square Capital Partners IV-A, L.P.	DE	NIA	Barings LLC	Management		MMLIC		
										Massachusetts Mutual Life Insurance					
			04-1590850				West 46th Street Hotel LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
							Barings Emerging Markets Debt Blended Total								
0000							Return Fund	IRL	NIA	Barings LLC	Management		MMLIC		
							Barings Emerging Markets Debt Short Duration								
0000							Fund	IRL	NI A	Barings LLC	Management		MMLIC		
							Barings Emerging Markets Sovereign Debt Fund								
0000								IRL	NIA	Barings LLC	Management		MMLIC		
							Babson Capital Floating Rate Income Fund,								
0000			27-3330830		0001521404		L.P	DE	NIA	MassMutual Holding LLC	Ownership	0.000	MMLIC		
							Babson Capital Loan Strategies Master Fund LF								
0000								CYM	NI A	Barings LLC	Management		MMLIC		
							Barings Global Investment Grade Corporate								
0000							Plus Fund	IRL	NI A	Barings LLC	Management		MMLIC		
							Barings Emerging Markets Debt Blended Total								
0000			47-3758432				Return Fund	MA	NI A	Barings LLC	Management		MMLIC		
							Barings Emerging Markets Local Currency Debt								
0000			47-3774453				Fund	MA		Barings LLC	Management				
0000			47-3790192				Barings Global High Yield Fund	MA	NIA	Barings LLC	Management				
0000			47.0704770				Baring Greater China Equity Fund	HKG		Baring Asset Management Limited	Management				
0000			47-3734770				Barings Total Return Bond Fund	MA		Barings LLC	Management				
0000			47-3801860				Barings U.S. High Yield Fund	MA	NI A	Barings LLC Massachusetts Mutual Life Insurance	Management		MMLIC		
			71-1018134				Great Lakes    LLC	DE	NIA		Ownership	11.200	MMLIC		
			71-1018134				Great Lakes II LLC	DE	NIA NIA	Company C.M. Life Insurance Company	Ownership	1.000			
			/ 1-1010134				Somerset Special Opportunities Master Fund		NIA	C.M. Life insurance company	ownership				
0000							IP	CYM	NIA	Barings LLC	Management		MMLIC		
							Lr	CTWL		Massachusetts Mutual Life Insurance	manayement.				
0000			04-1590850				Wood Creek Venture Fund LLC	DE	NIA	Company	Ownership	40.000	MMLIC		
			04-1000000				NOOD CLEEK VENTURE FUND LEG			Massachusetts Mutual Life Insurance	ownership	40.000			
0000			36-4823011				50 Liberty LLC	DE	NIA	Company	Ownership	59.100	MMLIC		
0000			36-4823011				50 Liberty LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.800	MMLIC		
			00 TOLOUTI				00 LIDOR () LEO	UL		Massachusetts Mutual Life Insurance	owner en /p				
0000			80-0948028				One Harbor Shore LLC	DE	NIA	Company	Ownership	49.900	MMLIC		
0000			80-0948028				One Harbor Shore LLC	DE	NIA	C.M. Life Insurance Company	Ownership	4.900	MMLIC		
									[	Massachusetts Mutual Life Insurance				-	
			16-1720387				Alexandria Towers Investors LLC	DE	NIA	Company	Ownership	_100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			81-4382111				Budapester Strasse LLC	DE	NI A	Company	Ownership	100.000	MMLIC		
										Massachusetts Mutual Life Insurance					
			82-2285211				Calgary Railway Holding LLC	DE	NI A	Company	Ownership	90.000	MMLIC		
			82-2285211				Calgary Railway Holding LLC	DE	NIA	C.M. Life Insurance Company	Ownership	10.000	MMLIC		
							• , , •			Massachusetts Mutual Life Insurance					
			04-1590850				Cambridge Hotel LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
							-		1	Massachusetts Mutual Life Insurance					
			04-1590850				CHC/RFP VI Core LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
									1	Massachusetts Mutual Life Insurance					
			95-4207717				Cornerstone California Mortgage Fund I LLC	CA	NIA	Company	Ownership	100.000	MMLIC		
									1	Massachusetts Mutual Life Insurance			1		
0000			95-4207717				Cornerstone California Mortgage Fund II LLC _	CA	NIA	Company	Ownership	100.000	MMLIC		
							Cornerstone California Mortgage Fund III LLC		1	Massachusetts Mutual Life Insurance					
			95-4207717					CA	NIA	Company	Ownership	100.000	MMLIC		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
											Туре	lf			
											of Control	Control			
											(Ownership,	is		ls an	
						Name of Securities			Relation-		Board,	Owner-		SCA	
								Dami							
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	2
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
						, , , , , , , , , , , , , , , , , , ,			,	Massachusetts Mutual Life Insurance	,				-
			56-2630592				Cornerstone Fort Pierce Development LLC	DE	NIA	Company	Ownership		MMLIC		
0000			56-2630592				Cornerstone Fort Pierce Development LLC	DE	NIA	C.M. Life Insurance Company	Ownership	5.600	MMLIC		
			00 2000002							Massachusetts Mutual Life Insurance					
0000			45-2632610				Cornerstone Permanent Mortgage Fund	MA	NIA	Company	Ownership	100.000	MMLIC		
			40-2002010				corrierscone rermanent wortgage rund			Massachusetts Mutual Life Insurance	owner sinp		LIC		
0000			61-1750537				Cornerstone Permanent Mortgage Fund II	MA	NIA	Company	Ownership	100.000	MMLIC		
			61-1/5053/				cornerstone Permanent wortgage Fund II		NIA	Massachusetts Mutual Life Insurance	ownership		NMMLTC		
0000			05 0504000								a	100,000	188.10		
0000		-	35-2531693				Cornerstone Permanent Mortgage Fund III	MA	NIA	Company	Ownership		MMLIC		
		1			1					Massachusetts Mutual Life Insurance		100.057			
		-	61-1793735				Cornerstone Permanent Mortgage Fund IV	MA	NIA	Company	Ownership	100.000	MMLIC		
		1			1					Massachusetts Mutual Life Insurance					
0000		.	46-5001122				CREA 330 Third LLC	DE	NI A	Company	Ownership		MMLIC		
0000			46-5001122				CREA 330 Third LLC	DE	NI A	C.M. Life Insurance Company	Ownership		MMLIC		
		1								Massachusetts Mutual Life Insurance					
			26-2399532				CREA/LYON West Gateway, LLC	DE	NIA	Company	Ownership		MMLIC		
			26-2399532				CREA/LYON West Gateway, LLC		NI A	C.M. Life Insurance Company	Ownership		MMLIC		
			81-0890084				CREA Madison Member LLC	DE	NIA	C.M. Life Insurance Company	Ownership.		MMLIC		
										Massachusetts Mutual Life Insurance					
0000			20-0348173				CREA/PPC Venture LLC	DE	NIA	Company	Ownership	93,400	MMLIC		
0000			20-0348173				CREA/PPC Venture LLC		NIA	C.M. Life Insurance Company	Ownership				
			20 0040110							Massachusetts Mutual Life Insurance	owner arrp				
0000			82-1563809				CCB Montford Park LLC	DE	NIA	Company	Ownership		MMLIC		
0000			82-1563809				CCB Montford Park LLC	DE DE	NIA	C.M. Life Insurance Company	Ownership		MMLIC		
			02-1003009				CCD MOTILIOIO Park LLC	UE	NIA	Massachusetts Mutual Life Insurance	ownership				
0000			00.0700000				Denville Dimensult Venture 110	DE	ALL A		0	100,000			
0000			82-2783393				Danville Riverwalk Venture, LLC	UE	NIA	Company	Ownership		MMLIC		
										Massachusetts Mutual Life Insurance					
			26-1611591	3956836			Fallon Cornerstone One MPD LLC	DE	NIA	Company	Ownership		MMLIC		
			26-1611591	3956836			Fallon Cornerstone One MPD LLC	DE	NI A	C.M. Life Insurance Company	Ownership	8.700	MMLIC		
										Massachusetts Mutual Life Insurance					
0000			20-3347091				Fan Pier Development LLC	DE	NI A	Company	Ownership		MMLIC		
0000			20-3347091				Fan Pier Development LLC	DE	NI A	C.M. Life Insurance Company	Ownership		MMLIC		
		1								Massachusetts Mutual Life Insurance	1				
			46-3880526				Farringdon London Holdings LLC	DE	NIA	Company	Ownership	94.500	MMLIC		
			46-3880526				Farringdon London Holdings LLC	DE	NI A	C.M. Life Insurance Company	Ownership		MMLIC		
							<u> </u>			Massachusetts Mutual Life Insurance					
							Infinity SCD Ltd	GBR	NIA	Company	Ownership		MMLIC		
							.,			Massachusetts Mutual Life Insurance			1		
0000		1	20-4819358				Johnston Groves LLC	DE	NIA	Company	Ownership	57.200	MMLIC		
										Massachusetts Mutual Life Insurance					
0000		1	81-5360103				Landmark Manchester Holdings LLC	DE	NIA	Company	Ownership	100.000	MMLIC		
			01-0000100				Lanumark manufester nuturings LLC		NI A	Massachusetts Mutual Life Insurance			_ mmLIV		
0000		1	82-3393166		1		Portland 400 Sixth Manager LLC		NIA		Ownership	95.000	MMLIC		
			02-3393 100						INI A	Company	owner snip				
0000		1			1		Salomon Brothers Commercial Mortgage Trust 2001-MM	~	ALL A	Designs Deal Fatata (1)	le fluine e		184.10		
		-					2001-MM	DE	NIA	Barings Real Estate Advisers LLC	Influence		MMLIC		
		1			1					Massachusetts Mutual Life Insurance					
0000			27-2977720				Sawgrass Village Shopping Center LLC	DE	NI A	Company	Ownership		MMLIC		
			27-2977720				Sawgrass Village Shopping Center LLC	DE	NI A	C.M. Life Insurance Company	Ownership		MMLIC		
		1			1					Massachusetts Mutual Life Insurance					
			46-5491311				Seattle 1415 Hotel Owner LLC	DE	NI A	Company	Ownership		MMLIC		
										Massachusetts Mutual Life Insurance					
0000		1			1		Ten Fan Pier Boulevard LLC	DE	NIA	Company	Ownership		MMLIC		1
0000							Ten Fan Pier Boulevard LLC	DE	NIA	C.M. Life Insurance Company	Ownership		MILIC		
							Ton Fun Fiel Dourovaru LLO	····		o.m. Erro mouranee company	omior on p				

· · · · · · · · · · · · · · · · · · ·				·		<del>η</del>	T		η	1					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
											Туре	lf	1		
											of Control	Control	1		
											(Ownership,	is	1	ls an	
						Name of Securities			Relation-		Board,	Owner-	1	SCA	
						Exchange		Domi-	ship		Management,	ship	1	Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide	1	Re-	
Group		Company	ID	Federal		(U.S. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	auired?	,
	Crown Nome			RSSD	CIK		Or Affiliates								*
Code	Group Name	Code	Number	ROOD	CIK	International)	Or Annates	tion	Entity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	+
0000			04 5070574					DE		Massachusetts Mutual Life Insurance		05,000			
0000	,		81-5273574				Three PW Office Holding LLC	DE	NI A	Company	Ownership		MMLIC		
0000			05 0404550				T 1 T 1 1 1 10			Massachusetts Mutual Life Insurance		50,000			
			35-2484550 35-2484550				Twenty Two Liberty LLC	MA	NIA	Company C.M. Life Insurance Company	Ownership		MMLIC		
			30-2484000				Twenty Two Liberty LLC	MA	NIA		Ownership	5.900	MMLIC		
			45-4606547					DE	NLA	Massachusetts Mutual Life Insurance	0	1 000	MMLIC		
			40-400004/				UK LIW Manager LLC	UE	NIA	Company Massachusetts Mutual Life Insurance	Ownership	1.000	MMLIC		
0000			45-4606547				UK LIW Member LLC	DE	NIA	Company	0		MMLIC		
			40-400004/				UK LIW MEMDER LLC	UE	NIA		Ownership		MMLIC		
0000			00.0050604				Uppe Destaund Helding LLC	DE	NLA	Massachusetts Mutual Life Insurance	Ownership	100,000	MMLIC		
0000			82-3250684				Unna, Dortmund Holding LLC	DE	NIA	Company	Ownership		MMLIG		
0000			00.0001500				Via Ormania Nilan II O	DE	NUA	Massachusetts Mutual Life Insurance	0	100,000			
0000			82-3281588				Via Ceresio Milan LLC		NI A	Company Massachusetts Mutual Life Insurance	Ownership		MMLIC		
0000			15 5404400					DE				00,000			
0000			45-5401109 45-5401109				Washington Gateway Apartments Venture LLC	DE	NI A	Company	Ownership		MMLIC		
			45-5401109				Washington Gateway Apartments Venture LLC	DE	NIA	C.M. Life Insurance Company	Ownership	4.800	MMLIC		
0000			00 0070405					05		Massachusetts Mutual Life Insurance	a	00,000			
0000			20-2970495				Waterford Development Associates	DE	NIA	Company	Ownership		MMLIC		
0000			17 1000100					DE		Massachusetts Mutual Life Insurance	a	100,000	MMLIC		
0000			47-1993493				Waterloo London Holdings LLC		NIA	Company	Ownership		MMLIC		
			46-3122029				WeHo Domain LLC	DE	NIA	Massachusetts Mutual Life Insurance	0. march i	77.400	MMLIC		
			46-3122029				WeHo Domain LLC	DE	NIA	Company C.M. Life Insurance Company	Ownership		MMLIC		
			40-3122029				WEHO DOMAIN LLC		NIA	Massachusetts Mutual Life Insurance	Ownership		MMLIC		
			81-1552222				Willowwood Lakeside Master LLC	DE	NIA		Ownership		MMLIC		
			8 1- 1002222				WIIIOWWOOD Lakeside Master LLC		NIA	Company Massachusetts Mutual Life Insurance	Ownership		MMLIC		
			20-5481477				Venetia Valley Funding	DE	NIA		Ownership		MMLIC		
			20-04014/7				Ygnatio Valley Funding		NIA	Company Massachusetts Mutual Life Insurance	ownership		MMLIC		
			45-3168892			00	MassMutual Barings Dynamic Allocation Fund	MA	NIA	Company	Ownership		MMLIC		
			40-3100092			04	Massmutual barings Dynamic Allocation Fund	MA	NIA	Massachusetts Mutual Life Insurance	ownership		MMLIC		
			51-0529328	c	0000927972	00	MassMutual Premier Main Street Fund	MA	NIA	Company	Ownership.		MMLIC		
			51-0529526		000921912	04	MassMutual Premier Strategic Emerging Markets		NIA	Massachusetts Mutual Life Insurance	owner simp				
			26-3229251	c	0000927972	00	Fund	MA	NIA	Company	Ownership		MMLIC		
			20-3229231		000921912	04	runu	MA	NIA	Massachusetts Mutual Life Insurance	owner simp				
			04-3277550	c	0000927972	00	MassMutual Premier Value Fund	MA	NIA	Company	Ownership		MMLIC		
			04-3211330		000321312	04	MassMutual Select Diversified International	m.		Massachusetts Mutual Life Insurance	owner simp				
			14-1980900	c	0000916053	00	Fund	MA	NIA	Company	Ownership.	0.000	MMLIC		
			14-1300300		000010000			m.		Massachusetts Mutual Life Insurance	owner simp				
			01-0821120	ſ	0000916053	00	MassMutual Select Diversified Value Fund	MA	NIA	Company	Ownership.	0.000	MMLIC		
			01-0021120			V.	massmatual select piversified value Fullu			Massachusetts Mutual Life Insurance	omici antp		mmLIV		
.0000			04-3512593	r	0000916053	00	MassMutual Select Fundamental Growth Fund	MA	NIA	Company	Ownership.	0.000	MMLIC		
			07-0012000	0		V.				Massachusetts Mutual Life Insurance	omici antp				
0000			04-3513019	c	0000916053	00	MassMutual Select Large Cap Value Fund	MA	NIA	Company	Ownership		MMLIC		
			04 0010010		0000100000	ou	massmutual bereet Large cap varue rund			Massachusetts Mutual Life Insurance	owner amp				
0000			42-1710935	r	0000916053	00	MassMutual Select Mid-Cap Value Fund	MA	NIA	Company	Ownership		MMLIC		
							MassMutual Select Small Capital Value Equity		[	Massachusetts Mutual Life Insurance	•				
			02-0769954	l r	0000916053	00	Fund	MA	NIA	Company	Ownership	0.000	MMLIC		
			01 01 00 00						[	Massachusetts Mutual Life Insurance	•				
			04-3584140	r	0000916053	00	MassMutual Select Small Company Value Fund	MA	NIA	Company	Ownership.		MMLIC		
						· · · · · · · · · · · · · · · · · · ·	macomataat ooroot omatt company talue fulla		[	Massachusetts Mutual Life Insurance	•				
			46-4257056	l r	000067160		MML Series International Equity Fund	MA	NIA	Company	Ownership	0.000	MMLIC		
							and correct international Equity rails		[	Massachusetts Mutual Life Insurance	•				
0000			47-3517233	r	001317146		MML Series II Asset Momentum Fund	MA	NIA	Company	Ownership	100.000	MMLIC		
			11 0011200			<u> </u>				loombanit					

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
											Туре	lf			
											of Control	Control			
											(Ownership,	is		ls an	
						Name of Securities			Relation-		Board,	Owner-		SCA	
						Exchange		Domi-	ship		Management,	ship		Filing	
		NAIC				if Publicly Traded	Names of	ciliary	to		Attorney-in-Fact,	Provide		Re-	
Group		Company	ID	Federal		(U.Ś. or	Parent, Subsidiaries	Loca-	Reporting	Directly Controlled by	Influence,	Percen-	Ultimate Controlling	quired?	
Code	Group Name	Code	Number	RSSD	CIK	International)	Or Affiliates	tion	Éntity	(Name of Entity/Person)	Other)	tage	Entity(ies)/Person(s)	(Y/N)	*
	E.					· · · · ·			· · ·	Massachusetts Mutual Life Insurance		Ŭ		· · · ·	
			47-3529636		0001317146		MML Series II Dynamic Bond Fund	MA	NI A	Company	Ownership		MMLIC		
										Massachusetts Mutual Life Insurance					
			47-3544629		0001317146		MML Series II Equity Rotation Fund	MA	NI A	Company	Ownership				
										Massachusetts Mutual Life Insurance					
			47-3559064		0001317146		MML Series II Special Situations Fund	MA	NI A	Company	Ownership		MMLIC		
										Massachusetts Mutual Life Insurance					
			46-3289207		0000916053		MassMutual RetireSMART 2055 Fund	MA	NI A	Company Massachusetts Mutual Life Insurance	Ownership		MMLIC		
.0000			47-5326235		0000916053		MassMutual RetireSMART 2060 Fund	MA	NIA	Company	Ownership	89.600	MMLIC		
			47-0020200		0000910053		Massmutual Relifesmant 2000 Fund	MA	NI A	Massachusetts Mutual Life Insurance	owner snip		. MMLIC		
			45-1618155		0000916053		MassMutual RetireSMART Conservative Fund	MA	NIA	Company	Ownership		MMLIC		
			40 1010100		00000100000					Massachusetts Mutual Life Insurance	owner arrp				
0000			45-1618222		0000916053		MassMutual RetireSMART Growth Fund	MA	NIA	Company	Ownership	0.000	MMLIC		
										Massachusetts Mutual Life Insurance					
			45-1618262		0000916053		MassMutual RetireSMART Moderate Fund	MA	NI A	Company	Ownership	0.000	MMLIC		
										Massachusetts Mutual Life Insurance					
			45-1618046		0000916053		MassMutual RetireSMART Moderate Growth Fund .	MA	NI A	Company	Ownership		MMLIC		
							OFI Pictet Global Environmental Solution Fund								
			81-5311583					DE	NI A	OppenheimerFunds, Inc	Management		MMLIC		
										Massachusetts Mutual Life Insurance					
0000			93-6305075				Oppenheimer Developing Markets Fund	DE	NI A	Company	Ownership		MMLIC		
0000							0. Jahriman Davida ing Maduta E vita 10170	101	NIA	Massachusetts Mutual Life Insurance	0	04.000	MILIC		
0000							Oppenheimer Developing Markets Equity UCITS	IRL	NIA NIA	Company OppenheimerFunds. Inc	Ownership		INMETC		
							Oppenheimer Developing Markets Equity UCITS . Oppenheimer Emerging Markets Innovators UCITS		INI A	oppennermerrunds, mc.	Management		. MMLIC		
							oppennermer Emerging markets innovators ocris	IRL	NI A	OppenheimerFunds, Inc.	Management		MMLIC		
							Oppenheimer Emerging Markets Local Debt UCITS	!!!!		oppennernern unus, me.	management				
			34-40740DH					IRL	NIA	OppenheimerFunds, Inc.	Management		MMLIC		
			46-2984739				Oppenheimer Emerging Markets Revenue ETF	IRL	NIA	OppenheimerFunds, Inc.	Management		MMLIC		
			81-3492794				Oppenheimer ESG Revenue ETF	DE	NI A	OppenheimerFunds, Inc.	Management		MMLIC		
							Oppenheimer Global Equity UCITS	IRL	NI A	OppenheimerFunds, Inc.	Management		MMLIC		
			81-3480754				Oppenheimer Global ESG Revenue ETF	DE	NI A	OppenheimerFunds, Inc.	Management		MMLIC		
0000			47-3676235				Oppenheimer Global Multi-Asset Growth Fund	DE	NIA	OppenheimerFunds, Inc.	Management		MMLIC		
			81-5010075				Oppenheimer Global Revenue ETF	DE	NI A	OppenheimerFunds, Inc.	Management.		MMLIC		
							Oppenheimer Global Value Equity UCITS Oppenheimer International Growth & Income	IRL	NIA	OppenheimerFunds, Inc.	Management		MMLIC		+
			81-3136071		1		Fund	DE	NIA	OppenheimerFunds, Inc	Management		MMLIC		
0000			81-3136071				Oppenheimer International Revenue ETF		NIA NIA.	OppenheimerFunds, Inc.	Management		MMLIC		1
							Oppenheimer Russell 1000 Dynamic Multifactor			opportion unus, mo.	managonont				
			82-2791387				ETF	DE	NIA	OppenheimerFunds, Inc.	Management		MMLIC		
							Oppenheimer Russell 2000 Dynamic Multifactor								
			82-2794856				ETF	DE	NI A	OppenheimerFunds, Inc.	Management		MMLIC		
							Oppenheimer Russell 1000 Momentum Factor ETF								
			82-2716323					DE	NI A	OppenheimerFunds, Inc	Management		MMLIC		
0000			82-2759921				Oppenheimer Russell 1000 Value Factor ETF	DE	NI A	OppenheimerFunds, Inc	Management		MMLIC		
0000			00.070/707		1		Oppenheimer Russell 1000 Low Volatility	DF							
			82-2701797 82-2740997				Factor ETF	DE	NI A	OppenheimerFunds, Inc.	Management		MMLIC		
							Oppenheimer Russell 1000 Size Factor ETF	DE	NIA NIA	OppenheimerFunds, Inc.	Management		MMLIC		
			82-2732571 82-2768498				Oppenheimer Russell 1000 Quality Factor ETF . Oppenheimer Russell 1000 Yield Factor ETF	DE DE	NIA NIA	OppenheimerFunds, Inc OppenheimerFunds, Inc	Management Management		MMLIC		
			02-2100430				Oppenheimer SteelPath MLP & Energy		NI A	oppomerment unus, me.	manayement.				
			82-2222426	1		1	Infrastructure Fund	DE	NIA	OppenheimerFunds. Inc.	Management		MMLIC		
0000			0Z-ZZZ/4/h				Intrastructure Fund								

Asterisk	Explanation
1	Massachusetts Mutual Life Insurance Company owns .49% of the affiliated debt of Jefferies Finance LLC
2	Debt investors own 6.7% and includes only Great Lakes III, L.P.
3	Debt investors own 9.6% and includes only Babson Capital Loan Strategies Fund, L.P.
	Debt investors own 5.4% and includes only Great Lakes III, L.P.
5	Debt investors own 7.7% and includes only Great Lakes III, L.P.
6	Debt investors own 5.9% and includes only Great Lakes III, L.P.
7	Debt investors own 7.5% and includes only Great Lakes III, L.P.

	-	<u>^</u>							1.0		10	10
1	2	3	4	5	6	7 Income/	8	9	10	11	12	13
						(Disbursements)						
					Purchases, Sales	Incurred in						Reinsurance
					or Exchanges of	Connection with		Income/		Any Other Material		Recoverable/
					Loans, Securities,	Guarantees or		(Disbursements)		Activity Not in the		(Payable) on
NAIC					Real Estate.	Undertakings for	Management	Incurred Under		Ordinary Course of		Losses and/or
Company	ID	Names of Insurers and Parent,	Shareholder	Capital	Mortgage Loans or	the Benefit of any	Agreements and	Reinsurance		the Insurer's		Reserve Credit
Code	Number	Subsidiaries or Affiliates	Dividends	Contributions	Other Investments	Affiliate(s)	Service Contracts	Agreements	*	Business	Totals	Taken/(Liability)
65935	04-1590850	Massachusetts Mutual Life Insurance										
		Company (MMLIC)		(949,708,304)	(269, 123, 876)						(710,614,220)	(35,633,587
93432	06-1041383	C.M. Life Insurance Company		1,210,972	(16,056,416)						(14,024,185)	
70416	43-0581430	MML Bay State Life Insurance Company										
		Jefferies Finance LLC										
	26-0073611	MassMutual Asset Finance LLC	(14,203)		(115,519,708)						234.730.042	
		Barings Finance LLC	, , ,									
	82-3250684	Unna, Dortmund Holding LLC		112,322,170							112,322,170	
	16-1720387	Alexandria Towers Investors LLC										
	04-1590850	Insurance Road LLC										
	46-5491311	Seattle 1415 Hotel Owner LLC									67,316,514	
		Portland 400 Sixth Manager LLC										
	02 0000100	Barings Real Estate European Value Add I										
		SCSp		42,439,669							42,439,669	
	95-4207717	Cornerstone California Mortgage Fund I LLC										
	55 4201111	conterstone carrienna mortgage rund r EEC									40,630,339	
	81-5273574	Three PW Office Holding LLC										
		Barings Global Private Loan Fund										
		Landmark Manchester Holdings LLC										
	82-2285211	Calgary Railway Holding LLC										
	61-1750537	Cornerstone Permanent Mortgage Fund II										
	82-1563809	CCB Montford Park LLC								+		
	36-4823011	50 Liberty LLC										
	38-4010344	Barings North American Private Loan Fund										
	38-4010344	LP									15 000 000	
	81-0841854	Barings CLO Investment Partners LP										
		Barings Real Estate Credit Strategies VII									14,039,800	
	90-1332384											
	04 4500050			12,044,358								
	04–1590850	MM Copper Hill Road LLC		10, 129, 071								
	01 0044405	Solar Acquisition Holding, LLC								+		
	81-2244465	Chassis Acquisition Holding LLC									9,000,000	
	95-4207717	Cornerstone California Mortgage Fund II		0 500 440							0 500 440	
	04 4050750									+		
		CRA Aircraft Holding LLC								+	5,980,000	
		Via Ceresio Milan LLC									5,525,320	
		Waterloo London Holdings LLC		4,583,031							4,583,031	
		Cornerstone Permanent Mortgage Fund III		4,405,850							4,405,850	
		MML Special Situations Investor LLC		4, 141, 450							4, 141, 450	
		MM Chatham Office LLC		4,081,394							4,081,394	
	46-3123110	Sweet Tree Holdings 1, LLC		2,938,447							2,938,447	
	20-2548283	12-18 West 55th Street Predevelopment,										
		LLC		1,353,256							1,353,256	
		Braemar Energy Ventures I, L.P.		1,318,231							1,318,231	
	46-5460309	Red Lake Ventures, LLC		1,260,606							1,260,606	

1	2	3	4	5	6	7	8	9	10	11	12	13
	2	J J		č	5	Income/		5				10
						(Disbursements)						
					Purchases, Sales	Incurred in						Reinsurance
					or Exchanges of	Connection with		Income/		Any Other Material		Recoverable/
NIAIO					Loans, Securities,	Guarantees or	Management	(Disbursements)		Activity Not in the		(Payable) on
NAIC Company	ID	Names of Insurers and Parent.	Shareholder	Capital	Real Estate, Mortgage Loans or	Undertakings for the Benefit of any	Management Agreements and	Incurred Under Reinsurance		Ordinary Course of the Insurer's		Losses and/or Reserve Credit
Company	Number	Subsidiaries or Affiliates	Dividends	Contributions	Other Investments	Affiliate(s)	Service Contracts	Agreements	*	Business	Totals	Taken/(Liability)
	46-3122029	WeHo Domain LLC	Biridondo	1,053,630		, (initato(o)		, igi comonto		20011000	1,053,630	- ration (Elability)
	82-2783393	Danville Riverwalk Venture, LLC		1,029,113							1,029,113	
		Ten Fan Pier Boulevard LLC										
	46-5347643	MMI/Hines Harrison LLC		.550.115							550,115	
		Barings European Core Property Fund SCSp										
	46-4367364	CREA FMF Nashville LLC										
		CML Special Situations Investor LLC										
		Tamiami Citrus, LLC		258,417								
	04-3356880	MML Distributors LLC		250.000							250,000	
	46-5432619	Cornerstone Real Estate Fund X LP										
	56-2630592	Cornerstone Fort Pierce Development LLC		158.845							158.845	
	95-4207717	Cornerstone California Mortgage Fund III										
		LLC		42,690							42,690	
	98-0536233	Benton Street Partners I, L.P.		2.643							2.643	
	81-0890084	CREA Madison Member LLC		(219)							(219)	
	45-1618155	MassMutual RetireSMART Conservative Fund									(352)	
	45-1618222	MassMutual RetireSMART Growth Fund	(364)								(364)	
	45-1618046	MassMutual RetireSMART Moderate Growth										
		Fund	(366)								(366)	
	45-1618262	MassMutual RetireSMART Moderate Fund	(390)								(390)	
	47-3055009	Milestone Acquisition Holding, LLC.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	(1.002)							(1,002)	
	47-3529636	MML Series II Dynamic Bond Fund	(1,374)								(1,374)	
	46-3289207	MassMutual RetireSMART 2055 Fund	(3,677)								(3,677)	
	45-2779931	AT Mid-Atlantic Office Portfolio LLC		(13,328)							(13,328)	
	04-1590850	MMC Equipment Finance LLC		(14,203)							(14,203)	
	14-1980900	MassMutual Select Diversified										
		International Fund	(18,309)								(18,309)	
	04-1590850	CHC/RFP VI Core LLC		(19,592)							(19,592)	
	45-4606547	UK LIW Manager LLC		(30,052)							(30,052)	
		Barings US High Yield Bond Fund	(36,533)								(36,533)	
	47-5326235	MassMutual RetireSMART 2060 Fund	(38,607)								(38,607)	
		Wood Creek Aircraft Holding I, LP		(58,213)							(58,213)	
	06-1041383	CML Mezzanine Investor L, LLC		(98,970)							(98,970)	
	47-3559064	MML Series II Special Situations Fund	(110,877)								(110,877)	
	61-1793735	Cornerstone Permanent Mortgage Fund IV		(132,721)							(132,721)	
	46-3378584	WC Aircraft Holdings US II, LLC		(174,561)							(174,561)	
	04-3722906	Tower Square Capital Partners, L.P		(184,096)							(184,096)	
	47-3544629	MML Series II Equity Rotation Fund	(258,299)								(258,299)	
	06-1041383	CML Mezzanine Investor III, LLC		(265,674)							(265,674)	
		OPPENHEIMERFUNDS ICAV	(297,637)									
	. 06-1041383	CML Mezzanine Investor, LLC		(324,693)							(324,693)	
	56-2505390	Great Lakes LLC		(363,781)							(363,781)	
	26-4142796	Baring International Small Cap Equity										
		Fund		(424,273)							(424,273)	<u></u>

				-		_						
1	2	3	4	5	6	7	8	9	10	11	12	13
						Income/						
						(Disbursements)						<b>D</b> .
					Purchases, Sales	Incurred in						Reinsurance
					or Exchanges of	Connection with		Income/		Any Other Material		Recoverable/
					Loans, Securities,	Guarantees or		(Disbursements)		Activity Not in the		(Payable) on
NAIC	10	Names of Insurers and Parent.			Real Estate,	Undertakings for	Management	Incurred Under		Ordinary Course of		Losses and/or
Company Code	ID Number	Subsidiaries or Affiliates	Shareholder Dividends	Capital Contributions	Mortgage Loans or Other Investments	the Benefit of any Affiliate(s)	Agreements and Service Contracts	Reinsurance Agreements	*	the Insurer's Business	Totals	Reserve Credit Taken/(Liability)
				Contributions	Other investments	Annate(S)	Service Contracts	Agreements		Business		Taken/(Liability)
	93-6305075	Oppenheimer Developing Markets Fund	(532,889)	(548,973)							(532,889)	
	46-5437441	Barings/LAZ Parking Fund LP									(548,973)	
	80-0691253	Gateway Mezzanine Partners I, L.P		(562,032)							(562,032)	
	47-3517233	MML Series II Asset Momentum Fund									(669,796)	
	26-2399532	CREA/LYON West Gateway, LLC		(768,143)							(768,143)	
	81-3000420	MM Debt Participations LLC		(786,045)							(786,045)	
	46-2344300	Intermodal Holdings II LLC		(815,400)							(815,400)	
	04-1590850	MML Mezzanine Investor L, LLC		(890,729)							(890,729)	
	98-1332384	Barings Global Energy Infrastructure Fund										
				(908,032)							(908,032)	
	20-4819358	Johnston Groves LLC		(1, 195, 831)							(1, 195, 831)	
	82-1512591	KKR-MM Vector LP		(1,319,545)							(1,319,545)	
	71-1018134	Great Lakes    LLC		(1,396,222)							(1,396,222)	
	81-4065378	Remington L & W Holdings LLC		(1,520,504)							(1,520,504)	
	35-2484550	Twenty Two Liberty LLC		(1,722,500)							(1,722,500)	
	20-8856877	Somerset Special Opportunities Fund L.P.		(2,132,322)							(2,132,322)	
	45-5401109	Washington Gateway Apartments Venture LLC		(2,102,022)							(2,102,022)	
	45-5401103	Washington dateway Apartments venture LEC		(2.260.367)							(2,260,367)	
	04-1590850	MML Mezzanine Investor III, LLC		(2,389,938)								
	26-4441097	WP-SC. LLC		(2,535,434)							(2,535,434)	
		MML Mezzanine Investor, LLC		(2,923,049)							(2,923,049)	
	04-1590850			(2,923,049)								
	46-5001122	CREA 330 Third LLC		(2,924,710)							(2,924,710)	
	45-4606547	UK LIW Member LLC		(2,975,145)							(2,975,145)	
	45-2632610	Cornerstone Permanent Mortgage Fund		(4,567,188)							(4,567,188)	
	27-0547156	Cornerstone Real Estate Fund VIII LP		(4,891,896)							(4,891,896)	
	04-1590850	Cambridge Hotel LLC		(5,377,222)							(5,377,222)	
	46-3880526	Farringdon London Holdings LLC		(5,672,040)								
	30-0336246	Tower Square Capital Partners II, L.P		(5,698,927)							(5,698,927)	
	90-0991195	Gateway Mezzanine Partners II LP		(5,741,063)							(5,741,063)	
	20-5481477	Ygnatio Valley Funding										
	26-1611591	Fallon Cornerstone One MPD LLC		(7,945,007)							(7,945,007)	
	37-1708623	Great Lakes III, L.P.		(8,803,667)							(8,803,667)	
	20-8730751	Cornerstone Global Real Estate LP		(8,991,000)							(8,991,000)	
	45-3751572	Cornerstone Enhanced Mortgage Fund I LP		(9,046,465)							(9,046,465)	
	04-1590850	Berkshire Way LLC	(10,000,000)								(9,500,000)	
	04-1590850	MML Mezzanine Investor II, LLC		(9,899,976)							(9,899,976)	
		OPPENHEIMER GLOBAL REAL ESTATE FD	(10.325.833)								(10,325,833)	
	47-5322979	Timberland Forest Holding LLC		(10,327,118)							(10,327,118)	
	32-0160190	Tower Square Capital Partners II-A, L.P		(21,791,818)							(21,791,818)	
	20-3347091	Fan Pier Development LLC		(21,972,352)							(21,972,352)	
	04-1590850			(26,592,132)						†		
	04-1590850			(28,724,155)								
				(29,460,000)								
	81-4382111	Budapester Strasse LLC										

1	2	3	4	5	6	7	8	9	10	11	12	13
						Income/						
						(Disbursements)						
					Purchases, Sales	Incurred in						Reinsurance
					or Exchanges of	Connection with		Income/		Any Other Material		Recoverable/
					Loans, Securities,	Guarantees or		(Disbursements)		Activity Not in the		(Payable) on
NAIC					Real Estate,	Undertakings for	Management	Incurred Under		Ordinary Course of		Losses and/or
Company	ID	Names of Insurers and Parent,	Shareholder	Capital	Mortgage Loans or	the Benefit of any	Agreements and	Reinsurance		the Insurer's		Reserve Credit
Code	Number	Subsidiaries or Affiliates	Dividends	Contributions	Other Investments	Affiliate(s)	Service Contracts	Agreements	*	Business	Totals	Taken/(Liability)
	37-1506417	Babson Capital Loan Strategies Fund, L.P.										
				(30,230,843)							(30,230,843)	
	36-4770946	Cornerstone High Yield Venture LP		(36,469,765)							(36,469,765)	
	41-2280129	Tower Square Capital Partners IIIA, L.P										
		MML Investment Advisers, LLC	(62,259,515)								(62,259,515)	
	04-2854319	MassMutual Holding LLC	(424,470,200)								(280,434,572)	
9999999 Cor	ntrol Totals								XXX			

# SUPPLEMENTAL EXHIBITS AND SCHEDULES INTERROGATORIES

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

Jestion	IS.	Responses
	MARCH FILING	
1.	Will the Supplemental Compensation Exhibit be filed with the state of domicile by March 1?	YES
2.	Will the confidential Risk-based Capital Report be filed with the NAIC by March 1?	YES
3.	Will the confidential Risk-based Capital Report be filed with the state of domicile, if required, by March 1?	YES
4.	Will an actuarial opinion be filed by March 1?	YES
	APRIL FILING	
5.	Will Management's Discussion and Analysis be filed by April 1?	YES
6.	Will the Life, Health & Annuity Guaranty Association Model Act Assessment Base Reconciliation Exhibit be filed with the state of domicile and the NAIC by April 1?	YES
7.	Will the Adjustment Form (if required) be filed with the state of domicile and the NAIC by April 1?	YES
8.	Will the Supplemental Investment Risks Interrogatories be filed by April 1?	YES
	JUNE FILING	
9.	Will an audited financial report be filed by June 1?	YES
10.	Will Accountant's Letter of Qualifications be filed with the state of domicile and electronically with the NAIC by June 1?	YES
11.	Will the regulator-only (non-public) Communication of Internal Control Related Matters Noted in Audit be filed with the state of domicile and	

11.	Will the regulator-only (non-public) Communication of Internal Control Related Matters Noted in Audit be filed with the state of domicile and	
	electronically with the NAIC (as a regulator-only non-public document) by August 1?	YES

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

12.	Will Schedule SIS (Stockholder Information Supplement) be filed with the state of domicile by March 1?	NO
13.	Will the Medicare Supplement Insurance Experience Exhibit be filed with the state of domicile and the NAIC by March 1?	NO
14.	Will the Trusteed Surplus Statement be filed with the state of domicile and the NAIC by March 1?	NO
15.	Will the actuarial opinion on participating and non-participating policies as required in Interrogatories 1 and 2 to Exhibit 5 be filed with the state of domicile and electronically with the NAIC by March 1?	NO
16.	Will the actuarial opinion on non-guaranteed elements as required in interrogatory #3 to Exhibit 5 be filed with the state of domicile and electronically with the NAIC by March 1?	YES
17.	Will the actuarial opinion on X-Factors be filed with the state of domicile and electronically with the NAIC by March 1?	NO
18.	Will the actuarial opinion on Separate Accounts Funding Guaranteed Minimum Benefit be filed with the state of domicile and electronically with the NAIC by March 1?	NO
19.	Will the actuarial opinion on Synthetic Guaranteed Investment Contracts be filed with the state of domicile and electronically with the NAIC by March 1?	NO
20.	Will the Reasonableness of Assumptions Certification required by Actuarial Guideline XXXV be filed with the state of domicile and electronically with the NAIC by March 1?	NO
21.	Will the Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXV be filed with the state of domicile and electronically with the NAIC by March 1?	NO
22.	Will the Reasonableness of Assumptions Certification for Implied Guaranteed Rate Method required by Actuarial Guideline XXXVI be filed with the state of domicile and electronically with the NAIC by March 1?	NO
23.	Will the Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI (Updated Average Market Value) be filed with the state of domicile and electronically with the NAIC by March 1?	NO
24.	Will the Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI (Updated Market Value) be filed with the state of domicile and electronically with the NAIC by March 1?	NO
25.	Will the C-3 RBC Certifications required under C-3 Phase I be filed with the state of domicile and electronically with the NAIC by March 1?	YES
26.	Will the C-3 RBC Certifications required under C-3 Phase II be filed with the state of domicile and electronically with the NAIC by March 1?	YES

# SUPPLEMENTAL EXHIBITS AND SCHEDULES INTERROGATORIES

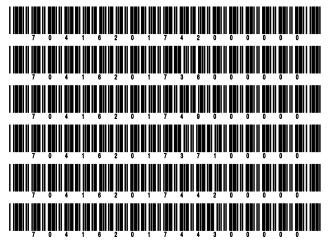
27.	Will the Actuarial Certifications Related to Annuity Nonforfeiture Ongoing Compliance for Equity Indexed Annuities be filed with the state of domicile and electronically with the NAIC by March 1?
28.	Will the actuarial opinion required by the Modified Guaranteed Annuity Model Regulation be filed with the state of domicile and electronically with the NAIC by March 1?
29.	Will the Actuarial Certifications Related to Hedging required by Actuarial Guideline XLIII be filed with the state of domicile and electronically with the NAIC by March 1?
30.	Will the Financial Officer Certification Related to Clearly Defined Hedging Strategy required by Actuarial Guideline XLIII be filed with the state of domicile and electronically with the NAIC by March 1?
31.	Will the Management Certification That the Valuation Reflects Management's Intent required by Actuarial Guideline XLIII be filed with the state of domicile and electronically with the NAIC by March 1?
32.	Will the Actuarial Certification Related to the Reserves required by Actuarial Guideline XLIII be filed with the state of domicile and electronically with the NAIC by March 1?
33.	Will the Actuarial Certification regarding the use of 2001 Preferred Class Tables required by the Model Regulation Permitting the Recognition of Preferred Mortality Tables for Use in Determining Minimum Reserve Liabilities be filed with the state of domicile and electronically with the NAIC by March 1?
34.	Will the Worker's Compensation Carve-Out Supplement be filed by March 1?
35.	Will Supplemental Schedule O be filed with the state of domicile and the NAIC by March 1?
36.	Will the Medicare Part D Coverage Supplement be filed with the state of domicile and the NAIC by March 1?
37.	Will an approval from the reporting entity's state of domicile for relief related to the five-year rotation requirement for lead audit partner be filed electronically with the NAIC by March 1?
38.	Will an approval from the reporting entity's state of domicile for relief related to the one-year cooling off period for independent CPA be filed electronically with the NAIC by March 1?
39.	Will an approval from the reporting entity's state of domicile for relief related to the Requirements for Audit Committees be filed electronically with the NAIC by March 1?
40.	Will the VM-20 Reserves Supplement be filed with the state of domicile and the NAIC by March 1?
	APRIL FILING
41.	Will the confidential Regulatory Asset Adequacy Issues Summary (RAAIS) required by the Valuation Manual be filed with the state of domicile by April 1?
42.	Will the Long-Term Care Experience Reporting Forms be filed with the state of domicile and the NAIC by April 1?
43.	Will the Interest-Sensitive Life Insurance Products Report Forms be filed with the state of domicile and the NAIC by April 1?
44.	Will the Credit Insurance Experience Exhibit be filed with the state of domicile and the NAIC by April 1?
45.	Will the Accident and Health Policy Experience Exhibit be filed by April 1?
46.	Will the Analysis of Annuity Operations by Lines of Business be filed with the state of domicile and the NAIC by April 1?
47.	Will the Analysis of Increase in Annuity Reserves During the Year be filed with the state of domicile and the NAIC by April 1?
48.	Will the Supplemental Health Care Exhibit (Parts 1, 2 and 3) be filed with the state of domicile and the NAIC by April 1?
49.	Will the regulator only (non-public) Supplemental Health Care Exhibit's Expense Allocation Report be filed with the state of domicile and the NAIC by April 1?
50.	Will the confidential Actuarial Memorandum required by Actuarial Guideline XXXVIII 8D be filed with the state of domicile by April 30?
51.	Will the Supplemental Term and Universal Life Insurance Reinsurance Exhibit be filed with the state of domicile and the NAIC by April 1?
52.	Will the Variable Annuities Supplement be filed with the state of domicile and the NAIC by April 1?
53.	Will Management's Report of Internal Control Over Financial Reporting be filed with the state of domicile by August 1?

12. Not required.

#### 13. 14. This line of business is not written by the company.

Not required. 15. Not required.

- 17. Not required.
- Not required. 18. 19.
- Not required.
- 20. 21. Not required.
- 22 Not required.
- 22. 23. 24. Not required.
- Not required. This line of business is not written by the company. 27.
- 28. This line of business is not written by the company.
- 29. Not required.
- 30. Not required. 33.
- Not required. This line of business is not written by the company. 34. 35. This line of business is not written by the company.
- 36. 37. This line of business is not written by the company.
- Not required. 38.
- 39. 42.
- Not required. Not required. This line of business is not written by the company.
- This line of business is not written by the company. This line of business is not written by the company. 44
- 45 48. This line of business is not written by the company
- 49 This line of business is not written by the company.
- 50. Not required. 51 Not required.
- Does not meet the threshold of \$500 million premium test. 53.
- Bar Codes
- 12. SIS Stockholder Information Supplement [Document Identifier 420]
- Medicare Supplement Insurance Experience Exhibit [Document Identifier 360] 13.
- 14 Trusteed Surplus Statement [Document Identifier 490]
- Participating Opinion for Exhibit 5 [Document Identifier 371] 15.
- Actuarial Opinion on X-Factors [Document Identifier 442] 17.
- Actuarial Opinion on Separate Accounts Funding Guaranteed Minimum Benefit [Document Identifier 443] 18.



		OF THE MML Bay State Life Insurance Company
19.	Actuarial Opinion on Synthetic Guaranteed Investment Contracts [Document Identifier 444]	
20.	Reasonableness of Assumptions Certification required by Actuarial Guideline XXXV [Document Identifier 445]	
21.	Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXV [Document Identifier 446]	
22.	Reasonableness of Assumptions Certification for Implied Guaranteed Rate Method required by Actuarial Guideline XXXVI [Document Identifier 447]	
23.	Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI [Document Identifier 448]	
24.	Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI (Updated Market Value) [Document Identifier 449]	
27.	Actuarial Certifications Related to Annuity Nonforfeiture Ongoing Compliance for Equity Indexed Annuities [Document Identifier 452]	
28.	Modified Guaranteed Annuity Model Regulation [Document Identifier 453]	
29.	Actuarial Certifications Related to Hedging required by Actuarial Guideline XLIII [Document Identifier 436]	
30.	Financial Officer Certification Related to Clearly Defined Hedging Strategy required by Actuarial Guideline XLIII [Document Identifier 437]	
33.	Actuarial Certification regarding the use of 2001 Preferred Class Tables required by the Model Regulation Permitting the Recognition of Preferred Mortality Tables for Use in Determining Minimum Reserve Liabilities [Document Identifier 454]	
34.	Workers' Compensation Carve-Out Supplement [Document Identifier 495]	
35.	Supplemental Schedule O [Document Identifier 465]	
36.	Medicare Part D Coverage Supplement [Document Identifier 365]	
37.	Relief from the five-year rotation requirement for lead audit partner [Document Identifier 224]	
38.	Relief from the one-year cooling off period for independent CPA [Document Identifier 225]	
39.	Relief from the Requirements for Audit Committees [Document Identifier 226]	
42.	Long-Term Care Experience Reporting Forms [Document Identifier 306]	
44.	Credit Insurance Experience Exhibit [Document Identifier 230]	
45.	Accident and Health Policy Experience Exhibit [Document Identifier 210]	
48.	Supplemental Health Care Exhibit (Parts 1, 2 and 3) [Document Identifier 216]	
49. 50.	Supplemental Health Care Exhibit's Expense Allocation Report [Document Identifier 217] Actuarial Memorandum Required by Actuarial Guideline XXXVIII 8D	
50.	[Document Identifier 435] Supplemental XXX/AXXX Reinsurance Exhibit [Document Identifier 345]	
01.		

#### ANNUAL STATEMENT FOR THE YEAR 2017 OF THE MML Bay State Life Insurance Company OVERFLOW PAGE FOR WRITE-INS

Addition	al Write-ins for Assets Line11				
			Current Year		Prior Year
		1	2	3	4
				Net Admitted Assets	Net Admitted
		Assets	Nonadmitted Assets	(Cols. 1 - 2)	Assets
1104.					
1105.					
1106.					
1197.	Summary of remaining write-ins for Line 11 from overflow page				

# NONE

#### SUMMARY INVESTMENT SCHEDULE Admitted Assets as Reported Gross Investment Holdings in the Annual Statement 3 4 6 Securities Lending Reinvested Total (Col. 3 + 4) Collateral Percentage Amount Investment Categories Amount Amount Amount Percentage 1. Bonds: 1.1 U.S. treasury securities 39.535.499 8.497 39.535.499 39.535.499 8.497 1.2 U.S. government agency obligations (excluding mortgage-backed securities): .0.000 .0.000 1.21 Issued by U.S. government agencies 0.000 0.000 1.22 Issued by U.S. government sponsored agencies 1.3 Non-U.S. government (including Canada, excluding mortgaged-backed 0.000 0.000 securities) 1.4 Securities issued by states, territories, and possessions and political subdivisions in the U.S. : 1.41 States, territories and possessions general obligations .0.000 0.000 1.42 Political subdivisions of states, territories and possessions and .0.000 0.000 political subdivisions general obligations 0.000 0.000 1.43 Revenue and assessment obligations 1.44 Industrial development and similar obligations .0.000 0 000 1.5 Mortgage-backed securities (includes residential and commercial MBS) 1.51 Pass-through securities: 1.511 Issued or guaranteed by GNMA ... 5.960 0 001 .5.960 5.960 0 001 0.000 0.000 1.512 Issued or guaranteed by FNMA and FHLMC . 11,349,749 .2.439 11,349,749 11,349,749 2.439 1.513 All other 1.52 CMOs and REMICs. .55,923 ..0.012 .55,923 0.012 1.521 Issued or guaranteed by GNMA. FNMA. FHLMC or VA 1.522 Issued by non-U.S. Government issuers and collateralized by mortgage-backed securities issued or guaranteed by 0 000 agencies shown in Line 1.521 ... 0 000 .85,861,129 18.454 .85,861,129 85.861.129 18.454 1.523 All other ... 2. Other debt and other fixed income securities (excluding short-term): 2.1 Unaffiliated domestic securities (includes credit tenant loans and hybrid 117.906.611 25 341 117.906.611 117.906.611 25 341 securities) .50,637,694 10.883 .50,637,694 .50,637,694 10.883 2.2 Unaffiliated non-U.S. securities (including Canada). 2.3 Affiliated securities .7,099,665 ..1.526 7,099,665 .1.526 3. Equity interests: .0.000 .0.000 3.1 Investments in mutual funds 3.2 Preferred stocks: .0.000 0.000 3.21 Affiliated .0.000 3.22 Unaffiliated 0.000 3.3 Publicly traded equity securities (excluding preferred stocks): 0.000 0.000 3.31 Affiliated 3.32 Unaffiliated ..0.000 0.000 3.4 Other equity securities: .0.000 3.41 Affiliated 0.000 0.000 0 000 3.42 Unaffiliated 3.5 Other equity interests including tangible personal property under lease .0.000 0 000 3.51 Affiliated 0.000 0.000 3 52 Unaffiliated 4. Mortgage loans: 4.1 Construction and land development 0 000 0 000 ..0.000 .0.000 4.2 Agricultural . 3.187.846 0.685 3.187.846 3.187.846 0.685 4.3 Single family residential properties 0.000 0.000 4.4 Multifamily residential properties ..0.000 0.000 4.5 Commercial loans 0.000 0.000 4.6 Mezzanine real estate loans Real estate investments: .0.000 .0.000 5.1 Property occupied by company .... 5.2 Property held for production of income (including \$ of property acquired in satisfaction of 0.000 0.000 debt) ... 5.3 Property held for sale (including \$ .0.000 .0.000 property acquired in satisfaction of debt). 94 484 714 94 484 714 6. Contract loans 20 307 94 484 714 20 307 .0.000 .0.000 Derivatives. 7. .0.000 .0.000 Receivables for securities 0.000 Securities Lending (Line 10, Asset Page reinvested collateral). XXX XXX XXX

.55,147,328

465,272,118

11.853

0.000

100.000

465,272,118

.....11.853

0.000

100.000

.55, 147, 328

465,272,118

8.

9

10.

11.

12.

Other invested assets

Total invested assets

Cash, cash equivalents and short-term investments .

#### **SCHEDULE A - VERIFICATION BETWEEN YEARS**

Real Estate

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

# **SCHEDULE B - VERIFICATION BETWEEN YEARS**

Mortgage Loans

1.	Book value/recorded investment excluding accrued interest, December 31 of prior year	4,007,088
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)	4,700
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	
	5.2 Totals, Part 3, Column 8	
6.	Total gain (loss) on disposals, Part 3, Column 18	
7.	Deduct amounts received on disposals, Part 3, Column 15	
8.	Deduct amortization of premium and mortgage interest points and commitment fees	2,771
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)	3, 187, 846
12.	Total valuation allowance	
13.	Subtotal (Line 11 plus 12)	3, 187, 846
14.	Deduct total nonadmitted amounts	
15.	Statement value of mortgages owned at end of current period (Line 13 minus Line 14)	3, 187, 846

**SCHEDULE BA - VERIFICATION BETWEEN YEARS** 

Other Long-Term Invested Assets

1.	Book/adjusted carrying value, December 31 of prior year	
2.	Cost of acquired:	
	2.1 Actual cost at time of acquisition (Part 2, Column 8)	
	2.2 Additional investment made after acquisition (Part 2, Column 9)	
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	
	5.2 Totals, Part 3, Column 9	
6.	Total gain (loss) on disposals, Part 3, Column 19	
7.	Deduct amounts received on disposals, Part 3, Column 16	
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)	
12.	Deduct total nonadmitted amounts	
13.	Statement value at end of current period (Line 11 minus Line 12)	

# **SCHEDULE D - VERIFICATION BETWEEN YEARS**

Bonds and Stocks

1.	Book/adjusted carrying value, December 31 of prior year	
2.	Cost of bonds and stocks acquired, Part 3, Column 7	
3.	Accrual of discount	
4.	Unrealized valuation increase (decrease):	
	4.1. Part 1, Column 12	
	4.2. Part 2, Section 1, Column 15	
	4.3. Part 2, Section 2, Column 13	
	4.4. Part 4, Column 11	(46,975)
5.	Total gain (loss) on disposals, Part 4, Column 19	(74,935)
6.	Deduction consideration for bonds and stocks disposed of, Part 4, Column 7	
7.	Deduct amortization of premium	
8.	Total foreign exchange change in book/adjusted carrying value:	
	8.1. Part 1, Column 15	
	8.2. Part 2, Section 1, Column 19	
	8.3. Part 2, Section 2, Column 16	
	8.4. Part 4, Column 15	
9.	Deduct current year's other than temporary impairment recognized:	
	9.1. Part 1, Column 14	
	9.2. Part 2, Section 1, Column 17	
	9.3. Part 2, Section 2, Column 14	
	9.4. Part 4, Column 13	
10.	Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9)	
11.	Deduct total nonadmitted amounts	
12.	Statement value at end of current period (Line 10 minus Line 11)	

# SCHEDULE D - SUMMARY BY COUNTRY

		Long-Term Bonds and Sto	cks OWNED December 31	of Current Year		
			1 Book/Adjusted	2	3	4
C	escription	on	Carrying Value	Fair Value	Actual Cost	Par Value of Bonds
BONDS	1.	United States				
Governments	2.	Canada				
(Including all obligations guaranteed	3.	Other Countries				
by governments)	4.	Totals	39,541,459	39,143,523	39,563,707	39,506,144
U.S. States, Territories and Possessions						
(Direct and guaranteed)	5.	Totals				
U.S. Political Subdivisions of States, Territories and Possessions (Direct and guaranteed)	6.	Totals				
U.S. Special Revenue and Special Assessment Obligations and all Non- Guaranteed Obligations of Agencies and Authorities of Governments and			55 001	04.000	53 000	54 649
their Political Subdivisions	7.		55,924	61,823	57,930	54,812
Industrial and Miscellaneous, SVO	8.	United States				
Identified Funds and Hybrid	9.	Canada				
Securities (unaffiliated)	10.	Other Countries	45,147,576	45,606,663	45,117,491	44,960,525
	11.	Totals	265,755,182	269,796,520	266,214,530	265,470,311
Parent, Subsidiaries and Affiliates	12.	Totals	7,099,665	7,184,667	7,174,167	7,469,546
	13.	Total Bonds	312,452,230	316,186,533	313,010,334	312,500,813
PREFERRED STOCKS	14.	United States				
Industrial and Miscellaneous	15.	Canada				
(unaffiliated)	16.	Other Countries				
	17.	Totals				
Parent, Subsidiaries and Affiliates	18.	Totals				
	19.	Total Preferred Stocks				
COMMON STOCKS	20.	United States				
Industrial and Miscellaneous	21.	Canada				
(unaffiliated)	22.	Other Countries				
	23.	Totals				
Parent, Subsidiaries and Affiliates	24.	Totals				
	25.	Total Common Stocks				
	26.	Total Stocks				
	27.	Total Bonds and Stocks	312,452,230	316, 186, 533	313,010,334	

#### SCHEDULE D - PART 1A - SECTION 1

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

	1	2	3		5	6	es by Major Types	8	9	10	11	12
NAIC Designation	1 Year or Less	Over 1 Year	Over 5 Years Through 10 Years	Over 10 Years	Over 20 Years	No Maturity Date	Total Current Year	Col 7 as a % of		% From Col. 8 Prior Year	Total Publicly Traded	Total Privately Placed (a)
1. U.S. Governments	I Year or Less	Inrough 5 Years	Inrough 10 Years	Inrough 20 Years	Over 20 Years	Date	Total Current Year	Line 10.7	Prior Year	Prior Year	Iraded	Placed (a)
1.1 NAIC 1							39,541,459					
1.2 NAIC 2						XXX						
1.3 NAIC 3						XXX						
1.4 NAIC 4						XXX						
1.5 NAIC 5						XXX						
1.6 NAIC 6						XXX						
1.7 Totals	2,191	39.538.832	436			XXX	39.541.459	10.7	39.357.823	10.5	39.541.459	
2. All Other Governments	_,	00,000,001				7000						
2.1 NAIC 1												
2.2 NAIC 2						XXX						
2.3 NAIC 3						XXX						
2.4 NAIC 4						XXX						
2.5 NAIC 5						XXX						
2.6 NAIC 6						XXX						
2.7 Totals						XXX						
3. U.S. States, Territories and Possessions etc.,												
Guaranteed												
3.1 NAIC 1												
3.2 NAIC 2						XXX						
3.3 NAIC 3						XXX						
3.4 NAIC 4												
3.5 NAIC 5						XXX						
3.6 NAIC 6						XXX						
3.7 Totals						XXX						
4. U.S. Political Subdivisions of States, Territories and												
Possessions, Guaranteed												
4.1 NAIC 1						XXX						
4.2 NAIC 2						XXX						
4.3 NAIC 3						XXX						
4.4 NAIC 4						XXX						
4.5 NAIC 5						XXX						
4.6 NAIC 6	-					XXX						
4.7 Totals						XXX						
5. U.S. Special Revenue & Special Assessment Obligations, etc., Non-Guaranteed												
5.1 NAIC 1			13,897			XXX	.55,924	0.0				
5.2 NAIC 2	·		,,	·		XXX			·			
5.3 NAIC 3						XXX						
5.4 NAIC 4						XXX						
5.5 NAIC 5												
5.6 NAIC 6						XXX						
5.7 Totals	11,382	28,609	13,897	2,036		XXX	55,924	0.0	66,143	0.0	55,924	

SCHEDULE D - PART 1A - SECTION 1 (Continued) Quality and Maturity Distribution of All Bonds Owned December 31, at Book/Adjusted Carrying Values by Major Types of Issues and NAIC Designations

	1	2	3	4	5	6	7	8	9	10	11	12
NAIC Designation	1 Year or Less	Over 1 Year Through 5 Years	Over 5 Years Through 10 Years	Over 10 Years	Over 20 Years	No Maturity Date	Total Current Year	Col. 7 as a % of Line 10.7	Total from Col. 7 Prior Year	% From Col. 8 Prior Year	Total Publicly Traded	Total Privately Placed (a)
6. Industrial & Miscellaneous (Unaffiliated)	I Year or Less	Through 5 Years	Through to Years	Through 20 Years	Over 20 Years	Dale	Total Current Year	Line 10.7	Prior Year	Prior rear	Traded	Placed (a)
6.1 NAIC 1	5.865.988		125.318.571	4.679.485		XXX	183,262,312		203.668.176			
6.2 NAIC 2			46.864.669	1.762.984	1,452,970	XXX	135.679.622		119.844.201	31.9		
6.3 NAIC 3	107.559	1,088,254		46.166		XXX	1.742.542	0.5	3.438.712	0.9	332.916	1,409,626
6.4 NAIC 4	435.997					XXX		0.7	1.296.948	0.3		
6.5 NAIC 5				1.964		XXX		0.1		0.2		211.599
6.6 NAIC 6						XXX			2,838	0.0		
6.7 Totals	63, 195, 173	75,951,526	174,735,468	6,675,190	3,038,124	XXX	323,595,481	87.3	,	87.7	183.274.993	140,320,488
7. Hybrid Securities	00, 100, 170	70,001,020	174,700,400	0,070,100	0,000,124	~~~~	020,000,401	07.0	020,000,102	01.1	100,214,000	140,020,400
7.1 NAIC 1						XXX						
7.2 NAIC 2						XXX		0.1		0.1		
7.3 NAIC 3						XXX						
7.4 NAIC 4						XXX						
7.5 NAIC 5						XXX						
7.6 NAIC 6						XXX						
7.7 Totals				350.000		XXX	350.000	0.1	350,000	0.1	350.000	
8. Parent, Subsidiaries and Affiliates				000,000		7000	000,000	0.1	000,000	0.1	000,000	
8.1 NAIC 1				7.934		XXX	5,876,588	1.6		14		
8.2 NAIC 2						XXX		0.2		0.2		770.624
8.3 NAIC 3						XXX						
8.4 NAIC 4						XXX						
8.5 NAIC 5						XXX						
8.6 NAIC 6					452,453	XXX	452.453	0.1	524,103	0.1		452,453
8.7 Totals	25,346	803,235	5,810,697	7.934	452,453	XXX	7,099,665	1.9	6,404,131	1.7	38,267	7,061,398
9. SVO Identified Funds	.,.	-,		,	. ,		,, .		, , , -		- ,	, ,
9.1 NAIC 1	XXX	XXX	XXX	XXX	XXX							
9.2 NAIC 2	XXX	XXX	XXX	XXX	XXX							
9.3 NAIC 3	XXX	XXX	XXX	XXX	XXX							
9.4 NAIC 4	XXX	XXX	XXX	XXX	XXX							
9.5 NAIC 5	XXX	XXX	XXX	XXX	XXX							
9.6 NAIC 6	XXX	XXX	XXX	XXX	XXX	]						
9.7 Totals	XXX	XXX	XXX	XXX	XXX							

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

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

		IVIALUTILY DISTRIBUTI		Wined December 3		led Carrying valu			AIC Designations	10		10
	1	2 Over 1 Year	3 Over 5 Years	4 Over 10 Years	5	6 No Maturity	/	8 Col. 7 as a % of	9 Total from Col. 7	10 % From Col. 8	11 Total Publicly	12 Total Privately
NAIC Designation	1 Year or Less	Through 5 Years	Through 10 Years	Through 20 Years	Over 20 Years	Date	Total Current Year	Line 10.7	Prior Year	Prior Year	Traded	Placed (a)
10. Total Bonds Current Year												
10.1 NAIC 1	(d)5,904,907		130,372,977	4.689.455	1.585.154				XXX	XXX		
10.2 NAIC 2	(d)	28,889,348	47,635,293	2,112,984	1,452,970		136,800,246	36.9		XXX	70.232.664	66,567,582
10.3 NAIC 3	(d)	1,088,254					1.742.542	0.5	XXX	XXX		1,409,626
10.4 NAIC 4	(d)		2,001,831				2,699,406	0.7	XXX	XXX	2,514,815	
10.5 NAIC 5	(d)						(c)211,599	0.1	XXX	XXX		
10.6 NAIC 6	(d)		, ·	, <b>, .</b>	452,453		(c) 452,453	0.1	XXX	XXX		452,453
10.7 Totals							(b)370,642,529		XXX	XXX		
10.8 Line 10.7 as a % of Col. 7	17.1	31.4	48.7	1.9			100.0	XXX	XXX	XXX	60.2	39.8
11. Total Bonds Prior Year		••••						7000	7000	7000		
11.1 NAIC 1			125,447,032	6.023.299	1.556.668		XXX	XXX	248,205,661		139.288.565	108.917.09
11.2 NAIC 2				2.096.003			XXX	XXX	120,960,709	32.2		
11.3 NAIC 3	411,196	2,042,800					XXX	XXX	3,438,712	0.9		2,443,216
11.4 NAIC 4	439,907						XXX	XXX	1,296,948	0.3	1,296,948	
11.5 NAIC 5							XXX	XXX	(c)	0.2		
11.6 NAIC 6	537	2,089	524,232				XXX	XXX	(c) 526,941	0.1	2,838	524,103
11.7 Totals							XXX		(b)375,211,198			
11.8 Line 11.7 as a % of Col. 9	20.7	29.2	47.5				XXX	XXX	100.0	XXX	56.0	
12. Total Publicly Traded Bonds	2011	20.2			0.0		7000	7000	100.0	7000	00.0	
12.1 NAIC 1	1,116,175						150,180,248	40.5	139.288.565	37.1	150.180.248	
12.2 NAIC 2												XXX
12.3 NAIC 3												
12.4 NAIC 4	435,997		2,001,831				2,514,815	0.7	1,296,948	0.3		XXX
12.5 NAIC 5							2,014,010			0.1		XXX
12.6 NAIC 5									2,838	0.0		XXX
12.7 Totals	2,402,909			4,575,036	1,495,424			60.2			223.260.643	XXX
12.7 Totals	1.1							00.2	<u>2</u> 10, 145,000 XXX			XXX
12.9 Line 12.7 as a % of Line 10.7, Col. 7,				2.0			100.0				100.0	
Section 10	0.6	20.1	37.9	1.2	0.4		60.2	XXX	XXX	XXX	60.2	XXX
13. Total Privately Placed Bonds	0.0	20.1	07.0	1.2	0.4		00.2		////	////	00.L	
13.1 NAIC 1	4,788,732	.38,790,433		2.227.403	1,542,700		78,556,035	21.2	108.917.097	29.0	XXX	
13.2 NAIC 2	55.859.099	2.296.093					66,567,582	18.0	52.904.822			66,567,582
13.3 NAIC 3							1,409,626	0.4				1,409,626
13.4 NAIC 4								0.0		0.0		
13.5 NAIC 5	75,978							0.1		0.1		211,599
13.6 NAIC 5					452,453		452,453	0.1		0.1		452,450
13.7 Totals	60,831,183	41,925,872		2,460,124						44.0	XXX	147,381,88
13.7 Totals	41.3	28.4							103,000,190 XXX			
13.9 Line 13.7 as a % of Line 10.7, Col. 7,				······································			100.0					
13.9 Line 13.7 as a % of Line 10.7, Col. 7, Section 10	16.4	11.3	10.8	0.7	0.5		39.8	XXX	XXX	XXX	XXX	39.8

(a) Includes \$ ......146,682,606 freely tradable under SEC Rule 144 or qualified for resale under SEC Rule 144A.

#### SCHEDULE D - PART 1A - SECTION 2

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

							by Major Type and			10	44	10
	1	2 Over 1 Year	3 Over 5 Years	4 Over 10 Years	5	6 No Moturity	/	8 Col. 7 as a % of	9 Total from Col. 7	10 % From Col. 8	11 Total Publicly	12 Total Privately
Distribution by Type	1 Year or Less	Over 1 Year Through 5 Years	Over 5 Years Through 10 Years	Through 20 Years	Over 20 Years	No Maturity Date	Total Current Year	Line 10.6	Prior Year	% From Col. 8 Prior Year	Total Publicly Traded	Placed
1. U.S. Governments	T TEALOI LESS	Through 5 Teals	Through to reals	Through 20 Teals	Over 20 Tears	Date	Total Ourient Tear	Line 10.0	THOITEAL	THUITEA	Haded	1 laceu
1.1 Issuer Obligations										10.5		
1.2 Residential Mortgage-Backed Securities	2.191		436				5.960	0.0		0.0	5.960	
1.3 Commercial Mortgage-Backed Securities	₽, 101					XXX						
1.4 Other Loan-Backed and Structured Securities						XXX						
1.5 Totals	2,191	39,538,832	436			XXX	39,541,459	10.7	39,357,823	10.5	39,541,459	
2. All Other Governments	2,101	00,000,002	100			7000	00,011,100	10.1	00,001,020	10.0	00,011,100	
2.1 Issuer Obligations						XXX						
2.2 Residential Mortgage-Backed Securities						XXX						
2.3 Commercial Mortgage-Backed Securities						XXX						
2.4 Other Loan-Backed and Structured Securities												
2.5 Totals						XXX						
3. U.S. States, Territories and Possessions, Guaranteed						~~~	-					
						~~~						
3.1 Issuer Obligations						XXX						
3.2 Residential Mortgage-Backed Securities 3.3 Commercial Mortgage-Backed Securities						XXX XXX						
3.4 Other Loan-Backed and Structured Securities												
						XXX						
3.5 Totals						XXX				-		
4. U.S. Political Subdivisions of States, Territories and Possessions, Guaranteed												
4.1 Issuer Obligations						XXX						
4.2 Residential Mortgage-Backed Securities												
4.2 Commercial Mortgage-Backed Securities												
4.4 Other Loan-Backed and Structured Securities												
4.4 Other Loan-Backed and Structured Securities 4.5 Totals						XXX						
						777						
<ol> <li>U.S. Special Revenue &amp; Special Assessment Obligations etc., Non-Guaranteed</li> </ol>												
5.1 Issuer Obligations												
5.2 Residential Mortgage-Backed Securities	11.382	28,609	13.897	.2,036			55.924	0.0	66.143	0.0	55,924	
5.3 Commercial Mortgage-Backed Securities				2,000				0.0		0.0		
5.4 Other Loan-Backed and Structured Securities												
5.5 Totals	11.382	28,609	13,897	2,036		XXX	55.924	0.0	66,143	0.0	55,924	
6. Industrial and Miscellaneous	11,002	20,003	10,007	2,000		~~~	55,524	0.0	00, 143	0.0	55,524	
	00 000 047	00 040 400	00 500 040	0.005.000	1 450 070	2004	100 751 077		170 117 000	47 5	00 100 040	70 500 00
6.1 Issuer Obligations					1,452,970	XXX						
6.2 Residential Mortgage-Backed Securities 6.3 Commercial Mortgage-Backed Securities	871,022 115.024	1,065,437 13,674,663	409,722 80,732,975			XXX	2,683,164 94,522,662	0.7 25.5	3, 196, 979 	0.9	2,164,911 79,483,023	
6.3 Commercial Mortgage-Backed Securities 6.4 Other Loan-Backed and Structured Securities	.,		80,732,975 24,995,855	4 070 700	+ 504 040	XXX						
6.5 Totals	1,813,110 63,195,173	25,170,988	24,995,855	4,072,783 6,675,190	1,584,942	XXX XXX	57,637,678 323,595,481	15.6 87.3	64,534,305 329,033,099	17.2 87.7	5,445,017	52,192,66
	03, 195, 1/3	75,951,526	1/4,/30,408	0,070,190	3,038,124	777	<b>323,393,48</b> 1	8/.3	329,033,099	٥/./	183,274,993	140,320,48
7. Hybrid Securities						1001						
7.1 Issuer Obligations						XXX		0.1		0.1		
7.2 Residential Mortgage-Backed Securities						XXX						
7.3 Commercial Mortgage-Backed Securities						XXX						
7.4 Other Loan-Backed and Structured Securities						XXX						
7.5 Totals				350,000		XXX	350,000	0.1	350,000	0.1	350,000	
8. Parent, Subsidiaries and Affiliates												
8.1 Issuer Obligations						XXX						
8.2 Residential Mortgage-Backed Securities				7,934		XXX		0.0				
8.3 Commercial Mortgage-Backed Securities						XXX		0.2				
8.4 Other Loan-Backed and Structured Securities		760,115	5,010,509		452,453	XXX	6,223,077	1.7		1.7		6,223,07
8.5 Totals	25,346	803,235	5,810,697	7,934	452,453	XXX	7,099,665	1.9	6,404,131	1.7	38,267	7,061,39

SCHEDULE D - PART 1A - SECTION 2 (Continued) Maturity Distribution of All Bonds Owned December 31, at Book/Adjusted Carrying Values by Major Type and Subtype of Issues

	1	2			5	Jan ying values	by Major Type and		9	10	11	12
	I	∠ Over 1 Year	over 5 Years	4 Over 10 Years	Э	o No Maturity	1	o Col. 7 as a % of	9 Total from Col. 7	% From Col. 8	Total Publicly	Total Privately
Distribution by Type	1 Year or Less	Through 5 Years			Over 20 Years	Date	Total Current Year	Line 10.6	Prior Year	Prior Year	Traded	Placed
9. SVO Identified Funds	I TEdi UI LESS	Through 5 Tears	Through to reals	Thiough 20 Teals	Over 20 Tears	Dale	Total Ourient Tear	Line T0.0	THUTTEA	THUITEA	Haueu	1 laceu
9.1 Exchange Traded Funds Identified by the SVO	XXX	XXX	XXX	XXX	XXX							
9.2 Bond Mutual Funds Identified by the SVO												
9.3 Totals	XXX	XXX	XXX	XXX	XXX							
	~~~	~~~	~~~	~~~~	~~~							
10. Total Bonds Current Year	00 000 017	75 575 007	00 500 040	0.045.000	4 450 070	2007	000 007 170	50.0	2004	2004	400 007 544	70 500 005
10.1 Issuer Obligations				2,615,636	1,452,970	XXX			XXX	XXX	136,067,541	
10.2 Residential Mortgage-Backed Securities		1, 140, 499				XXX		0.8	XXX	XXX		
10.3 Commercial Mortgage-Backed Securities						XXX			XXX	XXX		
10.4 Other Loan-Backed and Structured Securities	1,813,110			4,072,783	2,037,395	XXX			XXX	XXX	5,445,017	
10.5 SVO Identified Funds	XXX	XXX	XXX	XXX	XXX				XXX	XXX		
10.6 Totals		116,322,202		7,035,160	3,490,577				XXX	XXX		147,381,886
10.7 Line 10.6 as a % of Col. 7	17.1	31.4	48.7	1.9	0.9		100.0	XXX	XXX	XXX	60.2	39.8
11. Total Bonds Prior Year												
11.1 Issuer Obligations				4, 167, 920		XXX		XXX				
11.2 Residential Mortgage-Backed Securities		1,653,814				XXX	XXX	XXX	3, 383, 295	0.9	2,762,010	
11.3 Commercial Mortgage-Backed Securities	2, 133, 248					XXX	XXX	XXX				
11.4 Other Loan-Backed and Structured Securities	2, 171, 351				1, 328, 458	XXX	XXX	XXX			4,496,499	
11.5 SVO Identified Funds	XXX	XXX	XXX	XXX	XXX		XXX	XXX				
11.6 Totals								XXX				
11.7 Line 11.6 as a % of Col. 9	20.7	29.2	47.5	2.2	0.5		XXX	XXX	100.0	XXX	56.0	44.0
12. Total Publicly Traded Bonds												
12.1 Issuer Obligations	1,364,017	70,420,046		2,615,635	1,452,969	XXX	136,067,541				136,067,541	XXX
12.2 Residential Mortgage-Backed Securities	799, 173	935,733	345,830	184,114	212	XXX	2,265,062	0.6	2,762,010	0.7	2,265,062	XXX
12.3 Commercial Mortgage-Backed Securities	, ,	1,956,784		, ,		XXX	79,483,023				79,483,023	XXX
12.4 Other Loan-Backed and Structured Securities		1,083,767		1,775,287	42.243	XXX	5,445,017		4,496,499	1.2	5,445,017	XXX
12.5 SVO Identified Funds	XXX	XXX	XXX	XXX	XXX			-	, , ,		, ,	XXX
12.6 Totals				4,575,036	1.495.424							XXX
12.7 Line 12.6 as a % of Col. 7					0.7			XXX	XXX	XXX	100.0	XXX
12.8 Line 12.6 as a % of Line 10.6, Col. 7, Section 10	0.6	20.1	37.9	1.2	0.4		60.2	XXX	XXX	XXX	60.2	XXX
13. Total Privately Placed Bonds	0.0		0110					,,,,,	,	,,,,,		,,,,,
13.1 Issuer Obligations		5.155.891		1	1	XXX	72,569,935	19.6		22.1	XXX	
13.2 Residential Mortgage-Backed Securities	110.768	204.766		162,627		XXX		0.2	621,285	0.2	XXX	
13.3 Commercial Mortgage-Backed Securities			3,997,369			XXX		4.3	15,362,798	4.1	XXX	15,830,272
13.4 Other Loan-Backed and Structured Securities	1,573,391	24,847,336	27,702,363	2,297,496	1,995,152	XXX		15.8		17.7	XXX	58,415,738
13.5 SVO Identified Funds	XXX	24,047,000	XXX	XXX	XXX						XXX	
13.6 Totals											XXX	
13.7 Line 13.6 as a % of Col. 7				2,460,124	1,995,155						XXX	147, 361, 880
13.7 Line 13.6 as a % of Line 10.6, Col. 7, Section 10					1.4		39.8				XXX	39.8
13.0 Line 13.0 as a % of Line 10.6, Col. 7, Section 10	16.4	11.3	10.8	0.7	0.5		39.8	XXX	XXX	XXX	XXX	39.8

# SCHEDULE DA - VERIFICATION BETWEEN YEARS

Short-Term Investments

	1 Total	2 Bonds	3 Mortgage Loans	4 Other Short-term Investment Assets (a)	5 Investments in Parent, Subsidiaries and Affiliates
1. Book/adjusted carrying value, December 31 of prior year					
2. Cost of short-term investments acquired					
3. Accrual of discount					
4. Unrealized valuation increase (decrease)					
5. Total gain (loss) on disposals					
6. Deduct consideration received on disposals					
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)					
11. Deduct total nonadmitted amounts					
12. Statement value at end of current period (Line 10 minus Line 11)	999,957	999,957			

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

Schedule DB - Part A - Verification - Options, Caps, Floors, Collars, Swaps and Forwards **NONE** 

Schedule DB - Part B - Verification - Futures Contracts **NONE** 

Schedule DB - Part C - Section 1 - Replication (Synthetic Asset) Transactions (RSATs) Open **NONE** 

Schedule DB-Part C-Section 2-Reconciliation of Replication (Synthetic Asset) Transactions Open **NONE** 

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

# NONE

#### ANNUAL STATEMENT FOR THE YEAR 2017 OF THE MML Bay State Life Insurance Company SCHEDULE E - PART 2 - VERIFICATION BETWEEN YEARS

		1	2	3 Money Market	4
		Total	Bonds	Mutual funds	Other (a)
1.	Book/adjusted carrying value, December 31 of prior year	64 , 994 , 390	64 , 994 , 390		
2.	Cost of cash equivalents acquired	1,694,361,336			
3.	Accrual of discount				
4.	Unrealized valuation increase (decrease)				
5.	Total gain (loss) on disposals				
6.	Deduct consideration received on disposals	1,702,869,493	1,702,869,493		
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)	57, 190, 342			
11.	Deduct total nonadmitted amounts				
12.	Statement value at end of current period (Line 10 minus Line 11)	57,190,342	57,190,342		

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