

QUARTERLY STATEMENT

OF THE

Massachusetts Mutual Life Insurance Company

TO THE

Insurance Department

OF THE

STATE OF

**FOR THE QUARTER ENDED
MARCH 31, 2018**

LIFE AND ACCIDENT AND HEALTH

2018



LIFE AND ACCIDENT AND HEALTH COMPANIES - ASSOCIATION EDITION

QUARTERLY STATEMENT

AS OF MARCH 31, 2018

OF THE CONDITION AND AFFAIRS OF THE

Massachusetts Mutual Life Insurance Company

NAIC Group Code 0435 (Current) 0435 (Prior) NAIC Company Code 65935 Employer's ID Number 04-1590850

Organized under the Laws of Massachusetts, State of Domicile or Port of Entry MA

Country of Domicile United States of America

Incorporated/Organized 05/15/1851 Commenced Business 08/01/1851

Statutory Home Office 1295 State Street Springfield, MA, US 01111

Main Administrative Office 1295 State Street Springfield, MA, US 01111 413-788-8411

Mail Address 1295 State Street Springfield, MA, US 01111

Primary Location of Books and Records 1295 State Street Springfield, MA, US 01111 413-788-8411

Internet Website Address www.massmutual.com

Statutory Statement Contact Sean G. McCallen 413-744-3193 smccallen@massmutual.com 413-226-4086

OFFICERS

President and Chief Executive Officer Roger William Crandall Secretary Pia Denise Flanagan Treasurer Todd Garrett Picken Appointed Actuary Douglas Wright Taylor

OTHER

Elizabeth Ward Chicares, Executive Vice President, Chief Financial Officer and Chief Actuary Michael Robert Fanning, Executive Vice President Melvin Timothy Corbett, Executive Vice President and Chief Investment Officer Mark Douglas Roellig, Executive Vice President and Chief Technology and Administrative Officer Adnan Omar Ahmed, Executive Vice President Geoffrey James Craddock, Chief Risk Officer

DIRECTORS OR TRUSTEES

Roger William Crandall - Chairman Karen Hall Bechtel Mark Thomas Bertolini Kathleen Ann Corbet - Lead Director James Henry DeGraffenreidt, Jr. Robert Alan Essner Isabella Davidov Goren Jeffrey Marc Leiden Marc Francis Racicot Laura Jeanne Sen William Taylor Spitz Howard Todd Stitzer

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 therefrom for the period ended, and have been completed in accordance with the NAIC Annual Statement Instructions and Accounting Practices and Procedures manual except to the extent that: (1) state law may differ; or, (2) that state rules or regulations require differences in reporting not related to accounting practices and procedures, according to the best of their information, knowledge and belief, respectively. Furthermore, the scope of this attestation by the described officers also includes the related corresponding electronic filing with the NAIC, when required, that is an exact copy (except for formatting differences due to electronic filing) of the enclosed statement. The electronic filing may be requested by various regulators in lieu of or in addition to the enclosed statement.

Roger William Crandall President and Chief Executive Officer Pia Denise Flanagan Secretary Todd Garrett Picken Treasurer

Subscribed and sworn to before me this day of

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

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

ASSETS

| | Current Statement Date | | | 4 December 31 Prior Year Net Admitted Assets |
|---|------------------------|-------------------------|---|---|
| | 1 Assets | 2 Nonadmitted Assets | 3 Net Admitted Assets (Cols. 1 - 2) | |
| 1. Bonds | 91,030,361,938 | | 91,030,361,938 | 90,434,764,618 |
| 2. Stocks: | | | | |
| 2.1 Preferred stocks | 769,214,159 | | 769,214,159 | 767,807,089 |
| 2.2 Common stocks | 14,617,060,117 | | 14,617,060,117 | 15,635,265,539 |
| 3. Mortgage loans on real estate: | | | | |
| 3.1 First liens | 23,090,426,089 | | 23,090,426,089 | 22,579,846,619 |
| 3.2 Other than first liens..... | | | | |
| 4. Real estate: | | | | |
| 4.1 Properties occupied by the company (less \$602,554,399 encumbrances) | 140,671,602 | | 140,671,602 | 143,857,098 |
| 4.2 Properties held for the production of income (less \$ encumbrances) | 553,965,351 | | 553,965,351 | 608,115,213 |
| 4.3 Properties held for sale (less \$ encumbrances) | 8,909,960 | | 8,909,960 | 105,028,985 |
| 5. Cash (\$94,676,812), cash equivalents (\$2,821,329,832) and short-term investments (\$526,448,546) | 3,442,455,190 | | 3,442,455,190 | 3,579,565,622 |
| 6. Contract loans (including \$ premium notes) | 13,473,243,076 | 559,549 | 13,472,683,527 | 13,326,988,405 |
| 7. Derivatives | 8,483,900,803 | | 8,483,900,803 | 8,857,280,579 |
| 8. Other invested assets | 7,825,933,177 | 40,740,134 | 7,785,193,043 | 7,677,785,202 |
| 9. Receivables for securities | 523,042,548 | | 523,042,548 | 204,853,007 |
| 10. Securities lending reinvested collateral assets | | | | |
| 11. Aggregate write-ins for invested assets | | | | |
| 12. Subtotals, cash and invested assets (Lines 1 to 11) | 163,959,184,010 | 41,299,683 | 163,917,884,327 | 163,921,157,976 |
| 13. Title plants less \$ charged off (for Title insurers only) | | | | |
| 14. Investment income due and accrued | 2,251,232,123 | 8,945,504 | 2,242,286,619 | 2,198,552,050 |
| 15. Premiums and considerations: | | | | |
| 15.1 Uncollected premiums and agents' balances in the course of collection | 116,058,244 | 2,306,794 | 113,751,450 | 164,069,363 |
| 15.2 Deferred premiums, agents' balances and installments booked but deferred and not yet due (including \$ earned but unbilled premiums) | 705,423,044 | | 705,423,044 | 696,945,925 |
| 15.3 Accrued retrospective premiums (\$) and contracts subject to redetermination (\$) | | | | |
| 16. Reinsurance: | | | | |
| 16.1 Amounts recoverable from reinsurers | 56,584,772 | | 56,584,772 | 30,663,446 |
| 16.2 Funds held by or deposited with reinsured companies | | | | |
| 16.3 Other amounts receivable under reinsurance contracts | 7,151,096 | | 7,151,096 | 28,337,150 |
| 17. Amounts receivable relating to uninsured plans | | | | |
| 18.1 Current federal and foreign income tax recoverable and interest thereon | 320,285,199 | | 320,285,199 | 544,063,897 |
| 18.2 Net deferred tax asset | 883,629,331 | | 883,629,331 | 761,056,248 |
| 19. Guaranty funds receivable or on deposit | 27,147,922 | | 27,147,922 | 27,196,340 |
| 20. Electronic data processing equipment and software | 206,520,964 | 195,691,800 | 10,829,164 | 11,505,754 |
| 21. Furniture and equipment, including health care delivery assets (\$) | 43,577,460 | 43,577,460 | | |
| 22. Net adjustment in assets and liabilities due to foreign exchange rates | | | | |
| 23. Receivables from parent, subsidiaries and affiliates | 36,562,186 | | 36,562,186 | 59,367,747 |
| 24. Health care (\$) and other amounts receivable | | | | |
| 25. Aggregate write-ins for other than invested assets | 3,858,252,936 | 1,417,744,470 | 2,440,508,466 | 2,458,024,667 |
| 26. Total assets excluding Separate Accounts, Segregated Accounts and Protected Cell Accounts (Lines 12 to 25) | 172,471,609,287 | 1,709,565,711 | 170,762,043,576 | 170,900,940,563 |
| 27. From Separate Accounts, Segregated Accounts and Protected Cell Accounts | 68,862,235,594 | | 68,862,235,594 | 69,162,281,558 |
| 28. Total (Lines 26 and 27) | 241,333,844,881 | 1,709,565,711 | 239,624,279,170 | 240,063,222,121 |
| DETAILS OF WRITE-INS | | | | |
| 1101. | | | | |
| 1102. | | | | |
| 1103. | | | | |
| 1198. Summary of remaining write-ins for Line 11 from overflow page | | | | |
| 1199. Totals (Lines 1101 through 1103 plus 1198)(Line 11 above) | | | | |
| 2501. Corporate owned life insurance | 2,110,161,022 | | 2,110,161,022 | 2,104,402,544 |
| 2502. Fully refundable deposits, prepayments and miscellaneous assets | 355,512,128 | 96,022,814 | 259,489,314 | 282,561,096 |
| 2503. Employee insurance plan advances | 40,591,581 | 32,787 | 40,558,794 | 39,459,017 |
| 2598. Summary of remaining write-ins for Line 25 from overflow page | 1,351,988,205 | 1,321,688,869 | 30,299,336 | 31,602,010 |
| 2599. Totals (Lines 2501 through 2503 plus 2598)(Line 25 above) | 3,858,252,936 | 1,417,744,470 | 2,440,508,466 | 2,458,024,667 |

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

LIABILITIES, SURPLUS AND OTHER FUNDS

| | 1 Current Statement Date | 2 December 31 Prior Year |
|---|--------------------------------|--------------------------------|
| 1. Aggregate reserve for life contracts \$114,296,168,826 less \$ included in Line 6.3 (including \$132,257,577 Modco Reserve) | 114,296,168,826 | 112,904,106,756 |
| 2. Aggregate reserve for accident and health contracts (including \$ Modco Reserve) | 2,889,926,671 | 2,859,824,790 |
| 3. Liability for deposit-type contracts (including \$ Modco Reserve) | 13,644,211,049 | 13,014,264,844 |
| 4. Contract claims: | | |
| 4.1 Life | 440,017,052 | 450,718,022 |
| 4.2 Accident and health | 22,852,546 | 24,903,999 |
| 5. Policyholders' dividends \$9,575,073 and coupons \$ due and unpaid | 9,575,073 | 10,007,757 |
| 6. Provision for policyholders' dividends and coupons payable in following calendar year - estimated amounts: | | |
| 6.1 Dividends apportioned for payment (including \$ Modco) | 1,602,947,479 | 1,591,383,608 |
| 6.2 Dividends not yet apportioned (including \$ Modco) | | |
| 6.3 Coupons and similar benefits (including \$ Modco) | | |
| 7. Amount provisionally held for deferred dividend policies not included in Line 6 | | |
| 8. Premiums and annuity considerations for life and accident and health contracts received in advance less \$ discount; including \$8,796,888 accident and health premiums | 45,698,880 | 30,097,576 |
| 9. Contract liabilities not included elsewhere: | | |
| 9.1 Surrender values on canceled contracts | | |
| 9.2 Provision for experience rating refunds, including the liability of \$ accident and health experience rating refunds of which \$ is for medical loss ratio rebate per the Public Health Service Act | 9,701,956 | 7,673,131 |
| 9.3 Other amounts payable on reinsurance, including \$3,951,335 assumed and \$10,654,970 ceded | 14,606,305 | 19,151,509 |
| 9.4 Interest Maintenance Reserve | | |
| 10. Commissions to agents due or accrued-life and annuity contracts \$34,872,484 , accident and health \$226,214 and deposit-type contract funds \$10,876,288 | 45,974,986 | 25,768,037 |
| 11. Commissions and expense allowances payable on reinsurance assumed | 5,076,546 | 4,937,613 |
| 12. General expenses due or accrued | 963,181,769 | 1,074,342,178 |
| 13. Transfers to Separate Accounts due or accrued (net) (including \$(157,482,199) accrued for expense allowances recognized in reserves, net of reinsured allowances) | (198,890,666) | (228,875,358) |
| 14. Taxes, licenses and fees due or accrued, excluding federal income taxes | 41,578,706 | 67,425,911 |
| 15.1 Current federal and foreign income taxes, including \$ on realized capital gains (losses) | | |
| 15.2 Net deferred tax liability | | |
| 16. Unearned investment income | 124,407,535 | 162,598,176 |
| 17. Amounts withheld or retained by company as agent or trustee | 16,822,634 | 34,781,798 |
| 18. Amounts held for agents' account, including \$ agents' credit balances | 333,254,465 | 335,418,514 |
| 19. Remittances and items not allocated | 245,619,915 | 368,913,864 |
| 20. Net adjustment in assets and liabilities due to foreign exchange rates | | |
| 21. Liability for benefits for employees and agents if not included above | 183,847,348 | 187,472,254 |
| 22. Borrowed money \$249,814,549 and interest thereon \$ | 249,814,549 | 249,867,743 |
| 23. Dividends to stockholders declared and unpaid | | |
| 24. Miscellaneous liabilities: | | |
| 24.01 Asset valuation reserve | 2,256,135,699 | 3,207,069,587 |
| 24.02 Reinsurance in unauthorized and certified (\$) companies | 200,851 | 204,479 |
| 24.03 Funds held under reinsurance treaties with unauthorized and certified (\$) reinsurers | | |
| 24.04 Payable to parent, subsidiaries and affiliates | (17,417,420) | (7,053,829) |
| 24.05 Drafts outstanding | | |
| 24.06 Liability for amounts held under uninsured plans | | |
| 24.07 Funds held under coinsurance | 4,025,206,525 | 4,001,137,453 |
| 24.08 Derivatives | 5,812,488,715 | 5,979,259,357 |
| 24.09 Payable for securities | 406,358,340 | 78,913,791 |
| 24.10 Payable for securities lending | | |
| 24.11 Capital notes \$ and interest thereon \$ | | |
| 25. Aggregate write-ins for liabilities | 8,171,397,657 | 8,741,413,480 |
| 26. Total liabilities excluding Separate Accounts business (Lines 1 to 25) | 155,640,763,991 | 155,195,727,040 |
| 27. From Separate Accounts Statement | 68,862,229,932 | 69,162,278,428 |
| 28. Total liabilities (Lines 26 and 27) | 224,502,993,923 | 224,358,005,468 |
| 29. Common capital stock | | |
| 30. Preferred capital stock | | |
| 31. Aggregate write-ins for other than special surplus funds | | |
| 32. Surplus notes | 2,267,753,733 | 2,267,627,287 |
| 33. Gross paid in and contributed surplus | | |
| 34. Aggregate write-ins for special surplus funds | 3,250,000 | 3,250,000 |
| 35. Unassigned funds (surplus) | 12,850,281,514 | 13,434,339,366 |
| 36. Less treasury stock, at cost: | | |
| 36.1 shares common (value included in Line 29 \$) | | |
| 36.2 shares preferred (value included in Line 30 \$) | | |
| 37. Surplus (Total Lines 31+32+33+34+35-36) (including \$5,662 in Separate Accounts Statement) | 15,121,285,247 | 15,705,216,653 |
| 38. Totals of Lines 29, 30 and 37 | 15,121,285,247 | 15,705,216,653 |
| 39. Totals of Lines 28 and 38 (Page 2, Line 28, Col. 3) | 239,624,279,170 | 240,063,222,121 |
| DETAILS OF WRITE-INS | | |
| 2501. Repurchase agreements | 4,108,976,741 | 4,212,561,002 |
| 2502. Derivative collateral | 2,082,905,995 | 2,660,944,773 |
| 2503. Derivative accrued interest | 1,891,066,457 | 1,781,371,416 |
| 2598. Summary of remaining write-ins for Line 25 from overflow page | 88,448,464 | 86,536,289 |
| 2599. Totals (Lines 2501 through 2503 plus 2598)(Line 25 above) | 8,171,397,657 | 8,741,413,480 |
| 3101. | | |
| 3102. | | |
| 3103. | | |
| 3198. Summary of remaining write-ins for Line 31 from overflow page | | |
| 3199. Totals (Lines 3101 through 3103 plus 3198)(Line 31 above) | | |
| 3401. Designated surplus for group annuities | 2,500,000 | 2,500,000 |
| 3402. Designated surplus for separate account business | 750,000 | 750,000 |
| 3403. | | |
| 3498. Summary of remaining write-ins for Line 34 from overflow page | | |
| 3499. Totals (Lines 3401 through 3403 plus 3498)(Line 34 above) | 3,250,000 | 3,250,000 |

SUMMARY OF OPERATIONS

| | 1 Current Year To Date | 2 Prior Year To Date | 3 Prior Year Ended December 31 |
|---|------------------------------|----------------------------|--------------------------------------|
| 1. Premiums and annuity considerations for life and accident and health contracts | 5,994,572,588 | 4,666,592,525 | 17,461,646,567 |
| 2. Considerations for supplementary contracts with life contingencies | 6,220,668 | 5,214,585 | 24,676,699 |
| 3. Net investment income | 1,717,188,021 | 1,801,173,107 | 6,427,963,678 |
| 4. Amortization of Interest Maintenance Reserve (IMR) | 18,014,971 | 10,391,807 | 112,616,566 |
| 5. Separate Accounts net gain from operations excluding unrealized gains or losses | | 1,003,092 | 1,003,477 |
| 6. Commissions and expense allowances on reinsurance ceded | 30,872,125 | 27,729,663 | 129,971,697 |
| 7. Reserve adjustments on reinsurance ceded | (106,093,595) | 12,765,490 | 3,722,987 |
| 8. Miscellaneous Income: | | | |
| 8.1 Income from fees associated with investment management, administration and contract guarantees from Separate Accounts | 95,678,760 | 90,192,882 | 374,855,328 |
| 8.2 Charges and fees for deposit-type contracts | | | |
| 8.3 Aggregate write-ins for miscellaneous income | 138,093,352 | 127,050,093 | 916,084,043 |
| 9. Totals (Lines 1 to 8.3) | 7,894,546,890 | 6,742,113,244 | 25,452,541,042 |
| 10. Death benefits | 480,519,312 | 471,314,223 | 1,851,615,205 |
| 11. Matured endowments (excluding guaranteed annual pure endowments) | 5,231,382 | 4,388,870 | 22,525,034 |
| 12. Annuity benefits | 565,488,102 | 515,223,081 | 2,000,522,288 |
| 13. Disability benefits and benefits under accident and health contracts | 89,921,345 | 94,864,144 | 369,700,752 |
| 14. Coupons, guaranteed annual pure endowments and similar benefits | | | |
| 15. Surrender benefits and withdrawals for life contracts | 4,657,497,847 | 3,684,928,822 | 15,411,684,915 |
| 16. Group conversions | | | |
| 17. Interest and adjustments on contract or deposit-type contract funds | 100,914,691 | 73,638,984 | 334,690,683 |
| 18. Payments on supplementary contracts with life contingencies | 3,684,545 | 3,277,655 | 12,620,137 |
| 19. Increase in aggregate reserves for life and accident and health contracts | 1,383,046,229 | 743,240,102 | 3,620,913,739 |
| 20. Totals (Lines 10 to 19) | 7,286,303,453 | 5,590,875,881 | 23,624,272,753 |
| 21. Commissions on premiums, annuity considerations, and deposit-type contract funds (direct business only) | 233,678,435 | 222,921,946 | 918,614,536 |
| 22. Commissions and expense allowances on reinsurance assumed | 23,635,255 | 25,446,034 | 90,237,538 |
| 23. General insurance expenses | 564,329,996 | 794,560,115 | 2,598,943,259 |
| 24. Insurance taxes, licenses and fees, excluding federal income taxes | 67,555,541 | 67,216,364 | 244,513,863 |
| 25. Increase in loading on deferred and uncollected premiums | (15,992,643) | (10,888,514) | (2,756,358) |
| 26. Net transfers to or (from) Separate Accounts net of reinsurance | (192,935,871) | (165,338,364) | (2,880,987,974) |
| 27. Aggregate write-ins for deductions | (411,329,143) | (179,232,610) | (863,948,960) |
| 28. Totals (Lines 20 to 27) | 7,555,245,023 | 6,345,560,852 | 23,728,888,657 |
| 29. Net gain from operations before dividends to policyholders and federal income taxes (Line 9 minus Line 28) | 339,301,867 | 396,552,392 | 1,723,652,385 |
| 30. Dividends to policyholders | 364,148,784 | 367,164,619 | 1,569,130,529 |
| 31. Net gain from operations after dividends to policyholders and before federal income taxes (Line 29 minus Line 30) | (24,846,917) | 29,387,773 | 154,521,856 |
| 32. Federal and foreign income taxes incurred (excluding tax on capital gains) | 70,691,820 | (14,533,459) | (319,605,799) |
| 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) | (95,538,737) | 43,921,232 | 474,127,655 |
| 34. Net realized capital gains (losses) (excluding gains (losses) transferred to the IMR) less capital gains tax of \$ 1,976,847 (excluding taxes of \$ (3,699,445) transferred to the IMR) | (1,440,941,992) | (226,597,730) | (422,051,259) |
| 35. Net income (Line 33 plus Line 34) | (1,536,480,729) | (182,676,498) | 52,076,396 |
| CAPITAL AND SURPLUS ACCOUNT | | | |
| 36. Capital and surplus, December 31, prior year | 15,705,216,653 | 15,423,489,956 | 15,423,489,956 |
| 37. Net income (Line 35) | (1,536,480,729) | (182,676,498) | 52,076,396 |
| 38. Change in net unrealized capital gains (losses) less capital gains tax of \$ 22,944,605 | (221,446,024) | (320,194,801) | 367,766,370 |
| 39. Change in net unrealized foreign exchange capital gain (loss) | 277,049,422 | 134,721,920 | 720,964,144 |
| 40. Change in net deferred income tax | 219,498,114 | 29,828,326 | (1,084,216,547) |
| 41. Change in nonadmitted assets | (203,077,841) | 184,282,317 | 124,348,002 |
| 42. Change in liability for reinsurance in unauthorized and certified companies | 3,628 | | (204,479) |
| 43. Change in reserve on account of change in valuation basis, (increase) or decrease | | | |
| 44. Change in asset valuation reserve | 950,933,888 | 57,297,985 | (29,061,218) |
| 45. Change in treasury stock | | | |
| 46. Surplus (contributed to) withdrawn from Separate Accounts during period | | 10,136,547 | 10,139,720 |
| 47. Other changes in surplus in Separate Accounts Statement | 2,529 | (10,136,537) | (10,139,720) |
| 48. Change in surplus notes | 126,445 | 35,345,969 | 35,696,688 |
| 49. Cumulative effect of changes in accounting principles | | | |
| 50. Capital changes: | | | |
| 50.1 Paid in | | | |
| 50.2 Transferred from surplus (Stock Dividend) | | | |
| 50.3 Transferred to surplus | | | |
| 51. Surplus adjustment: | | | |
| 51.1 Paid in | | | |
| 51.2 Transferred to capital (Stock Dividend) | | | |
| 51.3 Transferred from capital | | | |
| 51.4 Change in surplus as a result of reinsurance | | | |
| 52. Dividends to stockholders | | | |
| 53. Aggregate write-ins for gains and losses in surplus | (70,540,838) | (14,291,821) | 94,357,341 |
| 54. Net change in capital and surplus for the year (Lines 37 through 53) | (583,931,406) | (75,686,593) | 281,726,697 |
| 55. Capital and surplus, as of statement date (Lines 36 + 54) | 15,121,285,247 | 15,347,803,363 | 15,705,216,653 |
| DETAILS OF WRITE-INS | | | |
| 08.301. Management and administrative fees | 64,410,251 | 56,155,451 | 620,758,034 |
| 08.302. Revenue sharing | 33,173,599 | 36,799,511 | 140,801,634 |
| 08.303. Experience refunds on reinsurance contracts | 31,238,076 | | |
| 08.398. Summary of remaining write-ins for Line 8.3 from overflow page | 9,271,426 | 34,095,131 | 154,524,375 |
| 08.399. Totals (Lines 08.301 through 08.303 plus 08.398) (Line 8.3 above) | 138,093,352 | 127,050,093 | 916,084,043 |
| 2701. Change in reserves due to reinsurance agreement | (458,303,445) | (189,469,422) | (886,570,313) |
| 2702. Market value adjustment transfer | (3,841,948) | (6,237,968) | (15,508,211) |
| 2703. Reinsurance ceded adjustment | (3,636,373) | (4,001,413) | (17,890,200) |
| 2798. Summary of remaining write-ins for Line 27 from overflow page | 54,452,623 | 20,476,193 | 56,019,764 |
| 2799. Totals (Lines 2701 through 2703 plus 2798)(Line 27 above) | (411,329,143) | (179,232,610) | (863,948,960) |
| 5301. Other changes in surplus | (66,904,465) | (10,290,408) | 51,702,967 |
| 5302. Reinsurance ceded adjustment | (3,636,373) | (4,001,413) | (17,890,200) |
| 5303. Change in minimum pension liability | | | 60,544,574 |
| 5398. Summary of remaining write-ins for Line 53 from overflow page | | | |
| 5399. Totals (Lines 5301 through 5303 plus 5398)(Line 53 above) | (70,540,838) | (14,291,821) | 94,357,341 |

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

CASH FLOW

| | 1 Current Year To Date | 2 Prior Year To Date | 3 Prior Year Ended December 31 |
|---|------------------------------|----------------------------|--------------------------------------|
| Cash from Operations | | | |
| 1. Premiums collected net of reinsurance | 6,082,194,610 | 4,737,457,170 | 20,924,687,105 |
| 2. Net investment income | 1,442,787,784 | 1,801,079,177 | 6,542,348,803 |
| 3. Miscellaneous income | 136,746,874 | 292,955,837 | 1,269,034,050 |
| 4. Total (Lines 1 to 3) | 7,661,729,268 | 6,831,492,184 | 28,736,069,958 |
| 5. Benefit and loss related payments | 5,897,885,657 | 4,776,924,285 | 19,718,437,173 |
| 6. Net transfers to Separate Accounts, Segregated Accounts and Protected Cell Accounts | (222,920,563) | (829,657,696) | (3,510,470,791) |
| 7. Commissions, expenses paid and aggregate write-ins for deductions | 543,261,437 | 852,225,709 | 2,636,613,112 |
| 8. Dividends paid to policyholders | 353,017,596 | 353,458,901 | 1,576,933,507 |
| 9. Federal and foreign income taxes paid (recovered) net of \$ tax on capital gains (losses) | (163,795,690) | 105,084,615 | 2,936,449 |
| 10. Total (Lines 5 through 9) | 6,407,448,437 | 5,258,035,814 | 20,424,449,450 |
| 11. Net cash from operations (Line 4 minus Line 10) | 1,254,280,831 | 1,573,456,370 | 8,311,620,508 |
| Cash from Investments | | | |
| 12. Proceeds from investments sold, matured or repaid: | | | |
| 12.1 Bonds | 3,520,813,048 | 6,344,185,431 | 19,836,499,683 |
| 12.2 Stocks | 102,817,481 | 175,199,760 | 861,618,650 |
| 12.3 Mortgage loans | 511,939,382 | 466,882,890 | 3,063,570,079 |
| 12.4 Real estate | 261,177,087 | 108,305,211 | 225,545,341 |
| 12.5 Other invested assets | 587,050,267 | 322,099,026 | 1,971,529,593 |
| 12.6 Net gains or (losses) on cash, cash equivalents and short-term investments | 13,010,101 | (378,111) | 34,823,446 |
| 12.7 Miscellaneous proceeds | (586,839,529) | (309,290,805) | (253,407,031) |
| 12.8 Total investment proceeds (Lines 12.1 to 12.7) | 4,409,967,837 | 7,107,003,402 | 25,740,179,761 |
| 13. Cost of investments acquired (long-term only): | | | |
| 13.1 Bonds | 3,846,740,126 | 8,338,743,429 | 24,909,025,693 |
| 13.2 Stocks | 295,916,843 | 270,916,466 | 1,114,586,074 |
| 13.3 Mortgage loans | 961,512,719 | 588,149,785 | 4,543,378,623 |
| 13.4 Real estate | (34,442,064) | 40,695,469 | 267,252,878 |
| 13.5 Other invested assets | 392,498,959 | 379,590,339 | 1,850,706,935 |
| 13.6 Miscellaneous applications | (104,959,482) | (1,332,452,416) | 687,627,366 |
| 13.7 Total investments acquired (Lines 13.1 to 13.6) | 5,357,267,101 | 8,285,643,072 | 33,372,577,569 |
| 14. Net increase (or decrease) in contract loans and premium notes | 145,393,299 | 147,899,036 | 867,421,224 |
| 15. Net cash from investments (Line 12.8 minus Line 13.7 and Line 14) | (1,092,692,563) | (1,326,538,706) | (8,499,819,032) |
| Cash from Financing and Miscellaneous Sources | | | |
| 16. Cash provided (applied): | | | |
| 16.1 Surplus notes, capital notes | 126,445 | 35,345,969 | 35,696,688 |
| 16.2 Capital and paid in surplus, less treasury stock | | | |
| 16.3 Borrowed funds | (89,896) | (20,882) | (188,056) |
| 16.4 Net deposits on deposit-type contracts and other insurance liabilities | 597,843,607 | (27,895,377) | 1,359,595,314 |
| 16.5 Dividends to stockholders | | | |
| 16.6 Other cash provided (applied) | (896,578,856) | (238,493,219) | (1,353,276,080) |
| 17. Net cash from financing and miscellaneous sources (Line 16.1 through Line 16.4 minus Line 16.5 plus Line 16.6) | (298,698,700) | (231,063,509) | 41,827,866 |
| 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) | (137,110,432) | 15,854,155 | (146,370,658) |
| 19. Cash, cash equivalents and short-term investments: | | | |
| 19.1 Beginning of year | 3,579,565,622 | 3,725,936,280 | 3,725,936,280 |
| 19.2 End of period (Line 18 plus Line 19.1) | 3,442,455,190 | 3,741,790,435 | 3,579,565,622 |

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

| | | | |
|---|------------|-------------|-------------|
| 20.0001. Bond conversions and refinancing | 88,707,836 | 78,691,190 | 795,770,615 |
| 20.0002. Dividend declared from Insurance Road LLC | 58,500,000 | | |
| 20.0003. Bank loan rollovers | 18,674,267 | | |
| 20.0004. Stock conversions | 13,789,057 | 2,774,147 | 330,787,631 |
| 20.0005. Change in market value of COLI | 5,876,636 | 31,954,814 | 139,443,155 |
| 20.0006. Dividend reinvestment | 4,753,371 | 286,843 | 8,689,847 |
| 20.0007. Net investment income payment in-kind bonds | 1,377,126 | | 3,011,624 |
| 20.0008. Net investment income payment in-kind stocks | 460,873 | | |
| 20.0009. Return of capital | 81,421 | | |
| 20.0010. Transfer of affiliated common stock | | 102,800,714 | 102,800,714 |

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

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

| | | | |
|--|--|---------|---------------|
| 20.0011. Other invested assets to stock | | 179,934 | |
| 20.0012. Premium ceded under new reinsurance agreement | | | 4,001,682,588 |
| 20.0013. Funds held under coinsurance | | | 4,001,571,695 |
| 20.0014. Partnerships and LLCs contributed to Insurance Road LLC | | | 743,411,455 |
| 20.0015. Premium recognized for a group annuity contract | | | 489,864,212 |
| 20.0016. Bonds received as consideration for a group annuity contract | | | 489,864,212 |
| 20.0017. Partnerships and LLCs contributed to MassMutual Asset Finance LLC | | | 350,249,750 |
| 20.0018. Transfer of real estate to other invested asstes | | | 138,468,488 |
| 20.0019. Bond distributions from other invested assets | | | 94,448,349 |
| 20.0020. Stock to bond | | | 73,953,110 |
| 20.0021. Transfer of mortgage loan to other than invested assets | | | 19,836,861 |
| 20.0022. Stock distributions from other invested assets | | | 2,405,798 |

EXHIBIT 1

DIRECT PREMIUMS AND DEPOSIT-TYPE CONTRACTS

| | 1 Current Year To Date | 2 Prior Year To Date | 3 Prior Year Ended December 31 |
|---|------------------------------|----------------------------|--------------------------------------|
| 1. Industrial life | | | |
| 2. Ordinary life insurance | 1,573,193,639 | 1,464,533,518 | 6,913,917,419 |
| 3. Ordinary individual annuities | 562,350,323 | 612,456,861 | 2,227,086,638 |
| 4. Credit life (group and individual) | | | |
| 5. Group life insurance | 173,289,344 | 325,704,175 | 1,442,551,013 |
| 6. Group annuities | 3,281,968,616 | 1,902,386,507 | 9,760,022,176 |
| 7. A & H - group | 42,355 | 43,146 | 228,844 |
| 8. A & H - credit (group and individual) | | | |
| 9. A & H - other | 187,538,817 | 179,381,565 | 729,532,195 |
| 10. Aggregate of all other lines of business | | | |
| 11. Subtotal | 5,778,383,094 | 4,484,505,772 | 21,073,338,285 |
| 12. Deposit-type contracts | 1,420,361,787 | 763,977,072 | 5,073,709,810 |
| 13. Total | 7,198,744,881 | 5,248,482,844 | 26,147,048,095 |
| DETAILS OF WRITE-INS | | | |
| 1001. | | | |
| 1002. | | | |
| 1003. | | | |
| 1098. Summary of remaining write-ins for Line 10 from overflow page | | | |
| 1099. Totals (Lines 1001 through 1003 plus 1098)(Line 10 above) | | | |

NOTES TO FINANCIAL STATEMENTS

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

NOTES TO FINANCIAL STATEMENTS

Note 1 – Summary of Significant Accounting Policies and Going Concern

a. Accounting practices:

The accompanying financial statements of Massachusetts Mutual 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 Commonwealth of Massachusetts Division of Insurance (the Division).

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

| | SSAP # | F/S Page | F/S Line # | 2018 | 2017 |
|--|--------|-------------|---------------|--------------------|-------------------|
| NET INCOME | | | | | |
| (1) State basis (Page 4, Line 35, Columns 1 & 3) | XXX | XXX | XXX | \$ (1,536,480,729) | \$ 52,076,396 |
| (2) State prescribed practices that increase/(decrease) NAIC | N/A | N/A | N/A | - | - |
| (3) State permitted practices that increase/(decrease) NAIC | N/A | N/A | N/A | - | - |
| (4) NAIC SAP (1-2-3=4) | XXX | XXX | XXX | \$ (1,536,480,729) | \$ 52,076,396 |
| SURPLUS | | | | | |
| (5) State basis (Page 3, Line 38, Columns 1 & 2) | XXX | XXX | XXX | \$ 15,121,285,247 | \$ 15,705,216,653 |
| (6) State prescribed practices that increase/(decrease) NAIC | N/A | N/A | N/A | - | - |
| (7) State permitted practices that increase/(decrease) NAIC | N/A | N/A | N/A | - | - |
| (8) NAIC SAP (5-6-7=8) | XXX | XXX | XXX | \$ 15,121,285,247 | \$ 15,705,216,653 |

b. Use of estimates in the preparation of the financial statements - No change

c. Accounting policy:

(1-5) No change

(6) For loan-backed and structured securities, such as asset-backed securities, mortgage-backed securities, including residential mortgage-backed securities and commercial mortgage-backed securities, and structured securities, including collateralized debt obligations, 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.

(7-14) No change

d. Going concern - No change

Note 2 – Accounting Changes and Corrections of Errors

a. For the three months ended March 31, 2018, corrections of prior years' errors were recorded in surplus, net of tax:

| | Increase (Decrease) to: | | |
|-------------------------|-------------------------------|----------------------------|-----------------------------------|
| | Prior Years' Net Income | Current Year Surplus | Asset or Liability Balances |
| Policyholders' reserves | \$ (30,883,324) | \$ (30,883,324) | \$ 30,883,324 |
| Deferred income taxes | - | (36,021,141) | (36,021,141) |
| Total | <u>\$ (30,883,324)</u> | <u>\$ (66,904,465)</u> | |

For the three months ended March 31, 2017, corrections of prior years' errors were recorded in surplus, net of tax:

| | Increase (Decrease) to: | | |
|--|-------------------------------|----------------------------|-----------------------------------|
| | Prior Years' Net Income | Current Year Surplus | Asset or Liability Balances |
| Policyholders' reserves | \$ 7,931,524 | \$ 7,931,524 | \$ (7,931,524) |
| Other than invested assets | 4,115,825 | 4,115,825 | 4,115,825 |
| Partnerships and limited liability companies | - | (1,477,867) | (1,477,867) |
| Total | <u>\$ 12,047,349</u> | <u>\$ 10,569,482</u> | |

Of the \$10,569,482 increase to surplus for prior years' errors, \$12,047,349 was recorded as prior period adjustments with an offset of \$1,477,867 that was recorded as a change in nonadmitted assets, net of tax in the Statutory Statements of Changes in Surplus.

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

NOTES TO FINANCIAL STATEMENTS**b. Adoption of new accounting standards**

In June 2016, the NAIC adopted substantive revisions to Statements of Statutory Accounting Principles (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 January 2017, the NAIC adopted modifications to SSAP No. 86, Derivatives, which were effective January 1, 2018. The modifications maintain gross reporting of derivative variation margin as a separate unit of account, rather than characterizing as a legal settlement with mark-to-market changes recorded in surplus. Regarding exchange traded futures, these modifications further clarified that variation margin and mark-to-market changes should be recorded in the same manner as all other derivative instruments. Starting in 2018, the Company records mark-to-market gains and losses from exchange traded futures as unrealized gains or losses instead of realized gains or losses and grosses up the derivatives and collateral line items on its financial statements. These modifications did not impact total surplus and did not have a material impact on the Company's financial statements.

In April 2017, the NAIC adopted modifications to SSAP No. 69, Statement of Cash Flows, to adopt ASU No. 2016-15, Classification of Certain Cash Receipts and Cash Payments, in its entirety, effective January 1, 2018 on a retrospective basis. In June 2017, the NAIC adopted additional modifications to SSAP No. 69 to incorporate portions of ASU No. 2016-18, Restricted Cash, effective December 31, 2019 with early adoption permitted. The initial modifications address the classification and disclosure of certain items within the statements of cash flows. Upon adoption, proceeds from the settlement of the Company's corporate owned life insurance policies were classified as investing activities instead of operating activities. Additionally, the Company elected to apply the nature of distribution approach to subsidiary, controlled or affiliated equity method investments and the cumulative earnings approach to all other equity method investments in determining whether distributions received from equity method investees are returns on investment, recorded as operating activities, or returns of investment, recorded as investing activities. Effective January 1, 2018, the Company early adopted on a retrospective basis, the second modification by adding restricted cash, cash equivalents and short-term investments to the existing statutory disclosure requirements in SSAP No.1, Accounting Policies, Risks & Uncertainties and Other Disclosures. Although the adoption of these modifications required reclassification between investing and operating cash flows, they did not have a material impact on the Company's financial statements.

In November 2017, the NAIC adopted modifications to SSAP No. 100R, Fair Value, allowing NAV per share as a practical expedient to fair value, either when specifically named in a SSAP or when the investee qualifies as an investment company, which were effective January 1, 2018. These modifications adopted, with modification, applicable U.S. GAAP, allowing greater consistency with Financial Accounting Standards Board's allowable use of NAV. These modifications also included the U.S. GAAP requirement to report instruments measured at NAV as a practical expedient outside of the fair value hierarchy disclosure as a separate item, along with a description of the terms and conditions of redemption features, amounts of unfunded commitments, restrictions to sell, and various other items. As a result of these modifications, the NAIC issued SSAP No. 100R, Fair Value. The adoption of these modifications did not have an impact on the Company's financial statements.

In February 2018, the NAIC adopted modifications to SSAP No. 9, Subsequent Events, and SSAP No. 101, Income Taxes, to temporarily allow any revised tax calculations resulting from the Tax Cuts and Job Act that occurred after statutory filing, to be classified as changes in estimate, thus avoiding classification as Type 1 subsequent events. Under SSAP No. 9, reporting entities are generally required to amend their filed statutory financial statements in their domestic state to ensure that the statutory financial statements and the audited financial statements are consistent if a Type 1 event is identified after the statutory financial statements are filed, but before the audited financial statements are issued. The adoption of this modification did not impact the Company's financial statements.

Note 3 – Business Combinations and Goodwill - No change

Note 4 – Discontinued Operations - No change

Note 5 – Investments

- a. Mortgage loans, including mezzanine real estate loans - No change
- b. Debt restructuring - No change
- c. Reverse mortgages - No change

NOTES TO FINANCIAL STATEMENTS

d. Loan-backed securities:

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

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

| (1) Amortized Cost Basis Before OTTI | (2) OTTI Recognized in Loss | | (3) Fair Value 1-(2a+2b) |
|--|--------------------------------------|----------------------|--------------------------------|
| | (2a) Interest | (2b) Non-interest | |

OTTI recognized in the first quarter

| | | | | | | |
|---|-----------|----------------|-----------|----------|-----------|----------------|
| a. Intent to sell | \$ | - | \$ | - | \$ | - |
| b. Inability or lack of intent to retain the investment in the security for a period of time sufficient to recover the amortized cost basis | | 645,690 | | - | 157,509 | 488,181 |
| c. Total first quarter | <u>\$</u> | <u>645,690</u> | <u>\$</u> | <u>-</u> | <u>\$</u> | <u>488,181</u> |

OTTI recognized in the second quarter

| | | | | | | |
|---|-----------|----------|-----------|----------|-----------|----------|
| d. Intent to sell | \$ | - | \$ | - | \$ | - |
| e. Inability or lack of intent to retain the investment in the security for a period of time sufficient to recover the amortized cost basis | | - | | - | - | - |
| f. Total second quarter | <u>\$</u> | <u>-</u> | <u>\$</u> | <u>-</u> | <u>\$</u> | <u>-</u> |

OTTI recognized in the third quarter

| | | | | | | |
|---|-----------|----------|-----------|----------|-----------|----------|
| g. Intent to sell | \$ | - | \$ | - | \$ | - |
| h. Inability or lack of intent to retain the investment in the security for a period of time sufficient to recover the amortized cost basis | | - | | - | - | - |
| i. Total third quarter | <u>\$</u> | <u>-</u> | <u>\$</u> | <u>-</u> | <u>\$</u> | <u>-</u> |

OTTI recognized in the fourth quarter

| | | | | | | |
|---|-----------|----------|-----------|----------|-----------|----------|
| j. Intent to sell | \$ | - | \$ | - | \$ | - |
| k. Inability or lack of intent to retain the investment in the security for a period of time sufficient to recover the amortized cost basis | | - | | - | - | - |
| l. Total fourth quarter | <u>\$</u> | <u>-</u> | <u>\$</u> | <u>-</u> | <u>\$</u> | <u>-</u> |

m. Annual aggregate total

| | | | |
|-----------|----------|-----------|----------------|
| <u>\$</u> | <u>-</u> | <u>\$</u> | <u>157,509</u> |
|-----------|----------|-----------|----------------|

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

(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 | Amortized Cost after OTTI | Fair Value at Time of OTTI | Date of Financial Instrument Where Reported |
|-----------|----------------------------|---------------------|---------------------|---------------------------|----------------------------|---|
| 07386HEN7 | \$ 43,711 | \$ 2,334 | \$ (41,377) | \$ 2,334 | \$ 1,609 | March 31, 2018 |
| 79548KXQ6 | 520,764 | 476,293 | (44,471) | 476,293 | 365,994 | March 31, 2018 |
| 45660NZY4 | 81,215 | 9,554 | (71,661) | 9,554 | 80,891 | March 31, 2018 |
| Totals | <u>\$ 645,690</u> | <u>\$ 488,181</u> | <u>\$ (157,509)</u> | <u>\$ 488,181</u> | <u>\$ 448,494</u> | |

(4) As of March 31, 2018, 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:

| | | |
|---|----|---------------|
| a. The aggregate amount of unrealized losses: | | |
| 1. Less than 12 months | \$ | (45,711,982) |
| 2. 12 months or longer | \$ | (42,501,605) |
| b. The aggregate related fair value of securities with unrealized losses: | | |
| 1. Less than 12 months | \$ | 3,002,184,744 |
| 2. 12 months or longer | \$ | 1,361,260,307 |

(5) No change

e. Dollar Repurchase Agreements and/or Securities Lending Transactions: The Company did not have any dollar repurchase agreements and/or securities lending transactions.

f. Repurchase Agreements Transactions Accounted for as Secured Borrowing:

(1) The Company has entered into repurchase agreements whereby the Company sells securities and simultaneously agrees to repurchase the same or substantially the same securities. These repurchase agreements are accounted for as collateralized borrowings with the proceeds from the sale of the securities recorded as a liability and the underlying securities continue to be recorded as an investment by the Company. Earnings on these investments are recorded as

NOTES TO FINANCIAL STATEMENTS

investment income and the difference between the proceeds and the amount at which the securities will be subsequently reacquired is amortized as interest expense. Repurchase agreements are used as a tool for overall portfolio management to help ensure the Company maintains adequate assets in order to provide yield, spread and duration to support liabilities and other corporate needs.

The Company provides collateral, as dictated by the repurchase agreements, to the counterparty in exchange for a loan. If the fair value of the securities sold becomes less than the loan, the counterparty may require additional collateral.

The carrying value, which is at cost, reported in the Company's assets for repurchase agreements approximates the fair value.

(2) Type of Repo Trades Used

| | 1 FIRST QUARTER | 2 SECOND QUARTER | 3 THIRD QUARTER | 4 FOURTH QUARTER |
|-----------------------|-----------------------|------------------------|-----------------------|------------------------|
| a. Bilateral (YES/NO) | YES | | | |
| b. Tri-Party (YES/NO) | NO | | | |

(3) Original (Flow) & Residual Maturity

| | FIRST QUARTER | | | | SECOND QUARTER | | | |
|--------------------------|------------------|------------------|----------------------------------|------------------------|----------------|--------------|----------------------------------|------------------------|
| | 1 MINIMUM | 2 MAXIMUM | 3 AVERAGE DAILY BALANCE | 4 ENDING BALANCE | 5 MINIMUM | 6 MAXIMUM | 7 AVERAGE DAILY BALANCE | 8 ENDING BALANCE |
| a. Open – No Maturity | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| b. Overnight | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| c. 2 Days to 1 Week | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| d. > 1 Week to 1 Month | \$ - | \$ 1,121,882,350 | \$ 320,537,814 | \$ - | \$ - | \$ - | \$ - | \$ - |
| e. > 1 Month to 3 Months | \$ 94,828,125 | \$ 2,105,640,126 | \$ 964,706,241 | \$ 1,496,137,626 | \$ - | \$ - | \$ - | \$ - |
| f. > 3 Months to 1 Year | \$ 1,741,826,405 | \$ 4,108,773,155 | \$ 2,864,718,629 | \$ 2,604,256,939 | \$ - | \$ - | \$ - | \$ - |
| g. > 1 Year | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |

| | THIRD QUARTER | | | | FOURTH QUARTER | | | |
|--------------------------|---------------|---------------|-----------------------------------|-------------------------|----------------|---------------|-----------------------------------|-------------------------|
| | 9 MINIMUM | 10 MAXIMUM | 11 AVERAGE DAILY BALANCE | 12 ENDING BALANCE | 13 MINIMUM | 14 MAXIMUM | 15 AVERAGE DAILY BALANCE | 16 ENDING BALANCE |
| a. Open – No Maturity | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| b. Overnight | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| c. 2 Days to 1 Week | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| d. > 1 Week to 1 Month | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| e. > 1 Month to 3 Months | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| f. > 3 Months to 1 Year | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| g. > 1 Year | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |

(4) The company did not have any repurchase agreements where securities sold and/or acquired resulted in default as of March 31, 2018.

(5) Securities "Sold" Under Repo – Secured Borrowing

| | FIRST QUARTER | | | | SECOND QUARTER | | | |
|---------------------------------|------------------|------------------|----------------------------------|------------------------|----------------|--------------|----------------------------------|------------------------|
| | 1 MINIMUM | 2 MAXIMUM | 3 AVERAGE DAILY BALANCE | 4 ENDING BALANCE | 5 MINIMUM | 6 MAXIMUM | 7 AVERAGE DAILY BALANCE | 8 ENDING BALANCE |
| a. BACV | XXX | XXX | XXX | \$ 4,100,394,564 | XXX | XXX | XXX | \$ - |
| b. Nonadmitted - Subset of BACV | XXX | XXX | XXX | \$ - | XXX | XXX | XXX | \$ - |
| c. Fair Value | \$ 4,100,394,564 | \$ 4,203,824,405 | \$ 4,149,962,685 | \$ 4,100,394,564 | \$ - | \$ - | \$ - | \$ - |

| | THIRD QUARTER | | | | FOURTH QUARTER | | | |
|---------------------------------|---------------|---------------|-----------------------------------|-------------------------|----------------|---------------|-----------------------------------|-------------------------|
| | 9 MINIMUM | 10 MAXIMUM | 11 AVERAGE DAILY BALANCE | 12 ENDING BALANCE | 13 MINIMUM | 14 MAXIMUM | 15 AVERAGE DAILY BALANCE | 16 ENDING BALANCE |
| a. BACV | XXX | XXX | XXX | \$ - | XXX | XXX | XXX | \$ - |
| b. Nonadmitted - Subset of BACV | XXX | XXX | XXX | \$ - | XXX | XXX | XXX | \$ - |
| c. Fair Value | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |

(6) Securities Sold Under Repo – Secured Borrowing by NAIC Designation

ENDING BALANCE

| | 1 NONE | 2 NAIC 1 | 3 NAIC 2 | 4 NAIC 3 | 5 NAIC 4 | 6 NAIC 5 | 7 NAIC 6 | 8 NON- ADMITTED |
|---------------------------------|-----------------|------------------|------------------|-------------|-------------|-------------|-------------|-----------------------|
| | a. Bonds - BACV | \$ - | \$ 4,100,394,564 | \$ - | \$ - | \$ - | \$ - | \$ - |
| b. Bonds - FV | - | 4,100,394,564 | - | - | - | - | - | - |
| c. LB & SS - BACV | - | - | - | - | - | - | - | - |
| d. LB & SS - FV | - | - | - | - | - | - | - | - |
| e. Preferred Stock - BACV | - | - | - | - | - | - | - | - |
| f. Preferred Stock - FV | - | - | - | - | - | - | - | - |
| g. Common Stock | - | - | - | - | - | - | - | - |
| h. Mortgage Loans - BACV | - | - | - | - | - | - | - | - |
| i. Mortgage Loans - FV | - | - | - | - | - | - | - | - |
| j. Real Estate - BACV | - | - | - | - | - | - | - | - |
| k. Real Estate - FV | - | - | - | - | - | - | - | - |
| l. Derivatives - BACV | - | - | - | - | - | - | - | - |
| m. Derivatives - FV | - | - | - | - | - | - | - | - |
| n. Other Invested Assets - BACV | - | - | - | - | - | - | - | - |
| o. Other Invested Assets - FV | - | - | - | - | - | - | - | - |
| p. Total Assets - BACV | \$ - | \$ 4,100,394,564 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| q. Total Assets - FV | \$ - | \$ 4,100,394,564 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |

p=a+c+e+g+h+j+l+n

q=b+d+f+g+i+k+m+o

NOTES TO FINANCIAL STATEMENTS

(7) Collateral Received – Secured Borrowing

| | FIRST QUARTER | | | | SECOND QUARTER | | | |
|--------------------|------------------|------------------|----------------------------------|------------------------|----------------|--------------|----------------------------------|------------------------|
| | 1 MINIMUM | 2 MAXIMUM | 3 AVERAGE DAILY BALANCE | 4 ENDING BALANCE | 5 MINIMUM | 6 MAXIMUM | 7 AVERAGE DAILY BALANCE | 8 ENDING BALANCE |
| a. Cash | \$ 624,582 | \$ 10,857,033 | \$ 6,430,230 | \$ 10,295,552 | \$ - | \$ - | \$ - | \$ - |
| b. Securities (FV) | \$ 3,778,390,472 | \$ 4,206,605,166 | \$ 4,126,411,115 | \$ 4,108,428,154 | \$ - | \$ - | \$ - | \$ - |

| | THIRD QUARTER | | | | FOURTH QUARTER | | | |
|--------------------|---------------|---------------|-----------------------------------|-------------------------|----------------|---------------|-----------------------------------|-------------------------|
| | 9 MINIMUM | 10 MAXIMUM | 11 AVERAGE DAILY BALANCE | 12 ENDING BALANCE | 13 MINIMUM | 14 MAXIMUM | 15 AVERAGE DAILY BALANCE | 16 ENDING BALANCE |
| a. Cash | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| b. Securities (FV) | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |

(8) Cash & Non-Cash Collateral Received – Secured Borrowing by NAIC Designation

ENDING BALANCE

| | 1 NONE | 2 NAIC 1 | 3 NAIC 2 | 4 NAIC 3 | 5 NAIC 4 | 6 NAIC 5 | 7 NAIC 6 | 8 DOES NOT QUALIFY AS ADMITTED |
|--|---------------|------------------|-------------|-------------|-------------|-------------|-------------|--|
| | a. Cash | \$ 10,295,552 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| b. Bonds - FV | - | 4,108,428,154 | - | - | - | - | - | - |
| c. LB & SS - FV | - | - | - | - | - | - | - | - |
| d. Preferred Stock - FV | - | - | - | - | - | - | - | - |
| e. Common Stock | - | - | - | - | - | - | - | - |
| f. Mortgage Loans - FV | - | - | - | - | - | - | - | - |
| g. Real Estate - FV | - | - | - | - | - | - | - | - |
| h. Derivatives - FV | - | - | - | - | - | - | - | - |
| i. Other Invested Assets - FV | - | - | - | - | - | - | - | - |
| Total Collateral Assets - FV (Sum of a through i) | \$ 10,295,552 | \$ 4,108,428,154 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |

(9) Allocation of Aggregate Collateral by Remaining Contractual Maturity

| | FAIR VALUE |
|-----------------------------|------------------|
| a. Overnight and Continuous | \$ - |
| b. 30 Days or Less | \$ 1,150,162,607 |
| c. 31 to 90 Days | \$ 2,958,265,547 |
| d. > 90 Days | \$ - |

(10) The company did not have any repurchase agreements where cash collateral received was reinvested as of March 31, 2018.

(11) Liability to Return Collateral – Secured Borrowing (Total)

| | FIRST QUARTER | | | | SECOND QUARTER | | | |
|-------------------------------|------------------|------------------|----------------------------------|------------------------|----------------|--------------|----------------------------------|------------------------|
| | 1 MINIMUM | 2 MAXIMUM | 3 AVERAGE DAILY BALANCE | 4 ENDING BALANCE | 5 MINIMUM | 6 MAXIMUM | 7 AVERAGE DAILY BALANCE | 8 ENDING BALANCE |
| a. Cash (Collateral – All) | \$ 624,582 | \$ 10,857,033 | \$ 6,430,230 | \$ 10,295,552 | \$ - | \$ - | \$ - | \$ - |
| b. Securities Collateral (FV) | \$ 3,778,390,472 | \$ 4,206,605,166 | \$ 4,126,411,115 | \$ 4,108,428,154 | \$ - | \$ - | \$ - | \$ - |

| | THIRD QUARTER | | | | FOURTH QUARTER | | | |
|-------------------------------|---------------|---------------|-----------------------------------|-------------------------|----------------|---------------|-----------------------------------|-------------------------|
| | 9 MINIMUM | 10 MAXIMUM | 11 AVERAGE DAILY BALANCE | 12 ENDING BALANCE | 13 MINIMUM | 14 MAXIMUM | 15 AVERAGE DAILY BALANCE | 16 ENDING BALANCE |
| a. Cash (Collateral – All) | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| b. Securities Collateral (FV) | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |

- g. Reverse Repurchase Agreements Transactions Accounted for as Secured Borrowing: The Company did not have any reverse repurchase agreements transactions accounted for as secured borrowing.
- h. Repurchase Agreements Transactions Accounted for as a Sale: The Company did not have any repurchase agreements transactions accounted for as a sale.
- i. Reverse Repurchase Agreements Transactions Accounted for as a Sale: The Company did not have any reverse repurchase agreements transactions accounted for as a sale.
- j. Real estate - No change
- k. Low-Income Housing Tax Credit (LIHTC) - No change
- l. Restricted Assets - No change
- m. Working capital finance investments: The Company did not invest in working capital finance investments.
- n. Offsetting and netting of assets and liabilities: The Company reports derivative and repurchase agreement assets and liabilities as gross in the financial statements without offsetting.
- o. 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

NOTES TO FINANCIAL STATEMENTS

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), 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 March 31, 2018:

| CUSIP Identification | Actual Cost | Fair Value | Book / Adjusted Carrying Value | Mortgage-Referenced Security (YES/NO) |
|----------------------|----------------------|-----------------------|--------------------------------|---------------------------------------|
| 3137G0EQ8 | \$ 376,087 | \$ 376,322 | \$ 376,087 | YES |
| 3137G0HQ5 | 155,816 | 155,938 | 155,816 | YES |
| 391164AF7 | 8,467,560 | 8,120,136 | 8,200,199 | NO |
| P7794GAH5 | 1,262,834 | 1,278,377 | 1,271,198 | NO |
| 912810FR4 | 4,944,283 | 6,214,032 | 4,860,297 | NO |
| 912810PS1 | 1,874,118 | 2,675,508 | 1,887,006 | NO |
| 912810RF7 | 67,974,258 | 82,783,251 | 68,200,132 | NO |
| 059514AC3 | 9,327,385 | 9,984,595 | 9,351,255 | NO |
| M8S175AA6 | 937,950 | 1,107,000 | 973,669 | NO |
| Total | \$ 95,320,291 | \$ 112,695,159 | \$ 95,275,659 | XXX |

p. 5* Securities

| Investment | Number of 5* Securities | | Aggregate BACV | | Aggregate Fair Value | |
|--------------------------|-------------------------|------------|----------------|---------------|----------------------|---------------|
| | Current Year | Prior Year | Current Year | Prior Year | Current Year | Prior Year |
| (1) Bonds - AC | 46 | 26 | \$385,447,055 | \$231,812,447 | \$385,599,967 | \$231,193,912 |
| (2) LB&SS - AC | - | - | - | - | - | - |
| (3) Preferred Stock - AC | 1 | 3 | 1,958,150 | 14,600,149 | 2,204,484 | 17,316,290 |
| (4) Preferred Stock - FV | - | - | - | - | - | - |
| (5) Total (1+2+3+4) | 47 | 29 | \$387,405,205 | \$246,412,596 | \$387,804,451 | \$248,510,202 |

AC - Amortized Cost FV - Fair Value

q. Short Sales - The Company does not engage in short sale transactions.

r. Prepayment Penalty and Acceleration Fees

| | Three Months Ended March 31, 2018 | |
|--|-----------------------------------|------------------|
| | General Account | Separate Account |
| 1. Number of CUSIPS | 30 | 7 |
| 2. Aggregate Amount of Investment Income | \$ 6,939,385 | \$ 1,015,763 |

Note 6 – Joint Ventures, Partnerships and Limited Liability Companies - No change

Note 7 – Investment Income – No change

Note 8 – Derivative Instruments - No change

Note 9 – Income Taxes – No change

Note 10 – Information Concerning Parent, Subsidiaries and Affiliates

a-c. The Company recorded no dividends in net investment income, from MassMutual Holding LLC (MMHLLC) through the three months ended March 31, 2018 and \$274,021,051 through the three months ended March 31, 2017.

In August 2017, MMI entered into an agreement to sell MassMutual Asia Limited (MM Asia) to Yunfeng Financial Group (Yunfeng FG). The sale is expected to close in December 2018, subject to regulatory approval and customary closing conditions. Under the terms of the agreement, MMI will receive cash and shares valued at approximately \$1,700,000,000.

In March, 2018, MMLIC and MMI entered into an agreement to sell 85.1% of MassMutual Life Insurance Company in Japan (MM Japan), a wholly-owned life insurance and wealth management subsidiary of MMI, to Nippon Life, for approximately \$981,000,000. The amount of the anticipated proceeds of the sale of MM Asia and MM Japan is expected to be less than MMI's book value. As such, an impairment of \$1,300,000,000 was recorded in net realized capital gains (losses) to establish a new MMI book value of \$2,700,000,000, which approximates the expected selling proceeds of MM Asia and MM Japan. The impairment reduced the Company's asset valuation reserve by approximately \$900,000,000, resulting in approximately a \$300,000,000 net decrease to surplus. Accordingly, any additional gain or loss on disposal will be realized when the sales are finalized.

In August 2017, MassMutual International LLC (MMI), a wholly owned subsidiary of the Company, entered into an agreement to sell MassMutual Asia Ltd. (MM Asia), a wholly owned Hong Kong based life insurance and wealth management subsidiary. The sale is expected to close in 2018, subject to regulatory approval and customary closing conditions. Under the terms of the agreement, MMI will receive consideration of approximately \$1,700,000,000 in cash and stock. The stock is from an entity that is expected to own 60 percent of MM Asia. In the third quarter 2017, MMI classified MM Asia as held for sale. Accordingly, the expected gain on disposal will be realized when the sale is finalized.

The Company contributed additional capital of \$140,968,604 to MMHLLC through the three months ended March 31, 2018 and \$134,358,160 through the three months ended March 31, 2017. During the three months ended March 31, 2018, the Company contributed additional capital of \$60,000,000 to MMI.

NOTES TO FINANCIAL STATEMENTS

d-f. No change

- g. Subsidiaries of MMHLLC and MMI are involved in litigation and investigations arising in the ordinary course of their business, which seek compensatory damages, punitive damages and equitable remedies. Although the Company is not aware of any actions or allegations that reasonably should give rise to a material adverse impact to the Company's financial position or liquidity, the outcome of litigation cannot be foreseen with certainty. It is the opinion of management that the ultimate resolution of these matters will not materially impact the Company's financial position or liquidity. However, the outcome of a particular proceeding may be material to the Company's surplus for a particular period depending upon, among other factors, the size of the loss and the level of the Company's changes in surplus for the period.

The Company has no parent.

h-n. No change

Note 11 – Debt

a. No change

b. Federal Home Loan Bank agreements

- (1) The Company is a member of the Federal Home Loan Bank of Boston (FHLB Boston). Through its membership, the Company has conducted business activity (borrowings) with the FHLB Boston. The Company uses these funding agreements with the FHLB Boston in an investment spread strategy, consistent with its other investment spread operations. The Company has determined the actual maximum borrowing capacity as \$2,000,000,000. The Company's unused capacity was \$945,246,135 as of March 31, 2018.

(2) FHLB Boston capital stock

a. Aggregate totals:

| | | March 31, 2018 | | |
|--|----|-------------------|-------------------------|--------------------------|
| | | 1 Total 2+3 | 2 General Account | 3 Separate Account |
| 1. Current Year: | | | | |
| (a) Membership stock - Class A | \$ | - | - | - |
| (b) Membership stock - Class B | | 25,000,000 | 25,000,000 | - |
| (c) Activity Stock | | 48,700,000 | 48,700,000 | - |
| (d) Excess Stock | | - | - | - |
| (e) Aggregate Total | | \$ 73,700,000 | \$ 73,700,000 | \$ - |
| (f) Actual or Estimated Borrowing Capacity as Determined by the Insurer | \$ | 2,000,000,000 | 2,000,000,000 | - |
| 2. Prior Year-end: | | | | |
| (a) Membership stock - Class A | \$ | - | - | - |
| (b) Membership stock - Class B | | 25,000,000 | 25,000,000 | - |
| (c) Activity Stock | | 48,700,000 | 48,700,000 | - |
| (d) Excess Stock | | - | - | - |
| (e) Aggregate Total | | \$ 73,700,000 | \$ 73,700,000 | \$ - |
| (f) Actual or Estimated Borrowing Capacity as determined by the Insurer | \$ | 2,000,000,000 | 2,000,000,000 | - |

b. Membership Stock (Class A and B) Eligible and Not Eligible for Redemption:

| | | Three Months Ended March 31, 2018 | | | | | |
|---------------------|-------------------------------|--|-------------------------------|---|-----------------------------------|----------------------|--|
| Membership Stock | 1 Current Year Total | 2 Not Eligible for Redemption | Eligible for Redemption | | | | |
| | | | 3 Less Than 6 Months | 4 6 Months to Less Than 1 Year | 5 1 to Less Than 3 Years | 6 3 to 5 Years | |
| 1. Class A | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | |
| 2. Class B | 25,000,000 | 25,000,000 | - | - | - | - | |

NOTES TO FINANCIAL STATEMENTS

(3) Collateral pledged to FHLB:

a. Amount pledged as of March 31, 2018:

1. Current year total general and separate accounts:

| | Fair Value | Carrying Value | Aggregate Total Borrowing |
|--------------------------|------------------|------------------|---------------------------|
| Total collateral pledged | \$ 1,558,840,821 | \$ 1,174,588,081 | \$ 1,054,753,865 |

2. Current year general account:

| | Fair Value | Carrying Value | Aggregate Total Borrowing |
|--------------------------|------------------|------------------|---------------------------|
| Total collateral pledged | \$ 1,558,840,821 | \$ 1,174,588,081 | \$ 1,054,753,865 |

3. Current year separate accounts:

| | Fair Value | Carrying Value | Aggregate Total Borrowing |
|--------------------------|------------|----------------|---------------------------|
| Total collateral pledged | \$ - | \$ - | \$ - |

4. Prior year-end total general and separate accounts:

| | Fair Value | Carrying Value | Aggregate Total Borrowing |
|--------------------------|------------------|------------------|---------------------------|
| Total collateral pledged | \$ 1,550,269,200 | \$ 1,166,181,238 | \$ 1,053,569,379 |

b. Maximum amount pledged for the three months ended March 31, 2018:

1. Current year total general and separate accounts:

| | Fair Value | Carrying Value | Amount Borrowed at Time of Maximum Collateral |
|----------------------------|------------------|------------------|---|
| Maximum collateral pledged | \$ 1,582,909,750 | \$ 1,184,930,400 | \$ 1,057,180,425 |

2. Current year general account:

| | Fair Value | Carrying Value | Amount Borrowed at Time of Maximum Collateral |
|----------------------------|------------------|------------------|---|
| Maximum collateral pledged | \$ 1,582,909,750 | \$ 1,184,930,400 | \$ 1,057,180,425 |

3. Current year separate accounts:

| | Fair Value | Carrying Value | Amount Borrowed at Time of Maximum Collateral |
|----------------------------|------------|----------------|---|
| Maximum collateral pledged | \$ - | \$ - | \$ - |

4. Prior year-end total general and separate accounts:

| | Fair Value | Carrying Value | Amount Borrowed at Time of Maximum Collateral |
|----------------------------|------------------|------------------|---|
| Maximum collateral pledged | \$ 1,680,502,867 | \$ 1,260,781,053 | \$ 1,107,520,273 |

NOTES TO FINANCIAL STATEMENTS

(4) Borrowing from FHLB:

a. Amount:

1. Current year:

March 31, 2018

| | 1 Total 2+3 | 2 General Account | 3 Separate Account | 4 Funding Agreements Reserves Established |
|------------------------|-------------------------|-------------------------|--------------------------|---|
| (a) Debt | \$ - | \$ - | \$ - | \$ - |
| (b) Funding agreements | 1,054,753,865 | 1,054,753,865 | - | 1,054,753,865 |
| (c) Other | - | - | - | - |
| (d) Aggregate total | <u>\$ 1,054,753,865</u> | <u>\$ 1,054,753,865</u> | <u>\$ -</u> | <u>\$ 1,054,753,865</u> |

2. Prior Year-end:

December 31, 2017

| | 1 Total 2+3 | 2 General Account | 3 Separate Account | 4 Funding Agreements Reserves Established |
|------------------------|-------------------------|-------------------------|--------------------------|---|
| (a) Debt | \$ - | \$ - | \$ - | \$ - |
| (b) Funding agreements | 1,053,569,379 | 1,053,569,379 | - | 1,053,569,379 |
| (c) Other | - | - | - | - |
| (d) Aggregate total | <u>\$ 1,053,569,379</u> | <u>\$ 1,053,569,379</u> | <u>\$ -</u> | <u>\$ 1,053,569,379</u> |

b. Maximum Amount:

Three Months Ended March 31, 2018

| | 1 Total 2+3 | 2 General Account | 3 Separate Account |
|--------------|-------------------------|-------------------------|--------------------------|
| 1. Debt | \$ - | \$ - | \$ - |
| 2. Funding | 1,057,180,425 | 1,057,180,425 | - |
| 3. Other | - | - | - |
| 4. Aggregate | <u>\$ 1,057,180,425</u> | <u>\$ 1,057,180,425</u> | <u>\$ -</u> |

c. FHLB - Prepayment Obligations:

| |
|---|
| Does the company have prepayment obligations under the following arrangements (YES/NO)? |
|---|

- | | |
|-----------------------|-----|
| 1. Debt | N/A |
| 2. Funding agreements | NO |
| 3. Other | N/A |

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

a. Defined Benefit Plan

- (1) The Company sponsors multiple employee benefit plans, providing retirement, life, health and other benefits to employees of unconsolidated subsidiaries, agents, general agents and retirees who meet plan eligibility requirements.

(2-3) No change

Three Months Ended March 31,

| | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 |
|--|------------------|------|-------------------------|------|--|------|
| | Pension Benefits | | Postretirement Benefits | | Special or Contractual Benefits per SSAP No 11 | |

(4) Components of net periodic benefit cost

| | | | | | | |
|---|----------------------|----------------------|---------------------|---------------------|-------------|-------------|
| a. Service cost | \$ 28,191,975 | \$ 31,487,267 | \$ 3,175,000 | \$ 3,050,000 | \$ - | \$ - |
| b. Interest cost | 26,903,376 | 28,079,415 | 2,925,000 | 3,175,000 | - | - |
| c. Expected return on plan assets | (42,877,100) | (36,857,375) | (25,000) | (25,000) | - | - |
| d. Transition asset or obligation | - | - | - | - | - | - |
| e. Gains and losses | 13,699,267 | 16,299,512 | 575,000 | 450,000 | - | - |
| f. Prior service cost or (credit) | 780,671 | 780,671 | (1,375,000) | (1,375,000) | - | - |
| g. Gain or loss recognized due to a settlement or curtailment | - | - | - | - | - | - |
| h. Total net periodic benefit cost | <u>\$ 26,698,190</u> | <u>\$ 39,789,490</u> | <u>\$ 5,275,000</u> | <u>\$ 5,275,000</u> | <u>\$ -</u> | <u>\$ -</u> |

(5-21) No change

b-i No change

NOTES TO FINANCIAL STATEMENTS**Note 13 – Capital and Surplus, Shareholders' Dividend Restrictions and Quasi-Reorganizations**

(1-3) No change

(4) The Company recorded dividends, recorded in net investment income, from MMHLLC of \$424,470,199 through the three months ended March 31, 2018 and \$429,741,301 through the three months ended March 31, 2017.

(5-10) No change

| (11) Issue Date | Interest Rate | Par Value (Face Amount of Notes) | Carrying Value of Note* | Interest and/or Principal Paid Current Year | Total Interest and/or Principal Paid | Unapproved Interest and/or Principal | Date of Maturity |
|--------------------|------------------|---|-------------------------------|---|--|---|---------------------|
| 11/15/1993 | 7.625% | \$ 250,000,000 | \$ 250,000,000 | \$ | \$ 457,500,000 | \$ 7,148,437 | 11/15/2023 |
| 03/01/1994 | 7.500% | 100,000,000 | 100,000,000 | 3,750,000 | 180,000,000 | 625,000 | 03/01/2024 |
| 05/12/2003 | 5.625% | 250,000,000 | 249,405,833 | | 204,023,438 | 5,273,438 | 05/15/2033 |
| 06/01/2009 | 8.875% | 310,000,000 | 307,148,918 | | 538,988,611 | 9,170,833 | 06/01/2039 |
| 01/17/2012 | 5.375% | 400,000,000 | 398,934,400 | | 126,252,778 | 7,166,667 | 12/01/2041 |
| 04/15/2015 | 4.500% | 500,000,000 | 491,464,800 | | 56,250,000 | 10,312,500 | 04/15/2065 |
| 03/20/2017 | 4.900% | 475,000,000 | 470,799,781 | | 12,154,722 | 11,637,500 | 04/01/2077 |
| Total | | \$ 2,285,000,000 | \$ 2,267,753,732 | \$ 3,750,000 | \$ 1,575,169,549 | \$ 51,334,375 | |

These notes are unsecured and subordinate to all present and future indebtedness of the Company, all policy claims and all prior claims against the Company as provided by the Massachusetts General Laws. The surplus notes are all held by bank custodians for unaffiliated investors. All issuances were approved by the Division.

All payments of interest and principal are subject to the prior approval of the Division. Anticipated sinking fund payments are due for the notes issued in 1993 and 1994 as follows: \$62,500,000 in 2021, \$87,500,000 in 2022, \$150,000,000 in 2023 and \$50,000,000 in 2024. There are no sinking fund requirements for the notes issued in 2003, 2009, 2012 or 2015. Scheduled interest on the notes issued in 1993 and 2003 is payable on May 15 and November 15 of each year to holders of record on the preceding May 1 or November 1, respectively. Scheduled interest on the note issued in 1994 is payable on March 1 and September 1 of each year to holders of record on the preceding February 15 or August 15, respectively. Scheduled interest on the notes issued in 2009 and 2012 is payable on June 1 and December 1 of each year to holders of record on the preceding May 15 and November 15, respectively. Scheduled interest on the note issued in 2015 is payable on April 15 and October 15 of each year to holders of record on the preceding April 1 and October 1, respectively. Interest expense is not recorded until approval for payment is received from the Division. As of March 31, 2018, the unapproved interest was \$51,334,375. Through March 31, 2018, the Company paid cumulative interest of \$1,575,169,549 on surplus notes. Interest of \$3,750,000 was approved and paid during the three months ended March 31, 2018. Interest of \$136,549,603 was approved and paid during the year ended December 31, 2017.

(12-13) No change

Note 14 – Liabilities, Contingencies and Assessments

a. Contingent commitments - No change

b. Assessments - No change

c. Gain contingencies - No change

d. Claims related to extra contractual obligations - No change

e. Joint and several liabilities - No change

f. All other contingencies:

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

The Company evaluates the need for accruals of loss contingencies for each matter. When a liability for a matter is probable and can be estimated, the Company accrues an estimate of the loss and any related insurance recoveries, if any. An accrual is subject to subsequent adjustment as a result of additional information and other developments. The resolution of matters are inherently difficult to predict, especially in the early stages of matter. Even if a loss is probable, due to many complex factors, such as speed of discovery and the timing of court decisions or rulings, a loss or range of loss may not be reasonably estimated until the later stages of the matter. For matters where a loss is material and it is either probable or reasonably possible then it is disclosed. For matters where a loss may be reasonably possible, but not probable, or is probable but not reasonably estimated, no accrual is established, but the matter, if material, is disclosed. 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 - No change**Note 16 – Information About Financial Instruments With Off-Balance Sheet Risk and Financial Instruments With Concentrations of Credit Risk** - No change

NOTES TO FINANCIAL STATEMENTS

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

- a. Transfers of receivables reported as sales - No change
- b. Transfer and Servicing of Financial Assets:
 - (1) No change
 - (2) The Company did not have any servicing assets or liabilities in 2018 or 2017.
 - (3) No change
 - (4) The Company did not have interests that continue to be held by a transferor in securitized financial assets in 2018 or 2017.
 - (5-7) No change
- c. Wash sales:
 - (1) In the course of the Company's investment management activities, securities may be sold and reacquired within 30 days 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 through the three months ended March 31, 2018 that were reacquired within 30 days of the sale date.

Note 18 – Gain or Loss to the Reporting Entity from Uninsured Plans and the Uninsured Portion of Partially Insured Plans - No change

Note 19 – Direct Premium Written/Produced By Managing General Agents/Third Party Administrators - No change

Note 20 – Fair Value Measurements

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

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

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.

NOTES TO FINANCIAL STATEMENTS

The fair value of group annuity contracts and other deposits is determined by multiplying the book value of the contract by an average market value adjustment factor. The market value adjustment factor is directly related to the difference between the book value of client liabilities and the present value of installment payments discounted at current market value yields. The market value yield is measured by the Bloomberg Barclays Global-Aggregate Total Return Index, subject to certain adjustments, and the installment period is equivalent to the duration of the Company's invested asset portfolio.

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 contracts with longer durations, guaranteed interest contracts and 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 receiving dividends are accumulated at the average minimum guaranteed rate and discounted at the risk-free rate. All others 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:

| | March 31, 2018 | | | Total |
|---|--------------------------|--------------------------|-------------------------|--------------------------|
| | Level 1 | Level 2 | Level 3 | |
| Financial assets: | | | | |
| Bonds: | | | | |
| Special revenue | \$ - | \$ 689,807 | \$ - | \$ 689,807 |
| Industrial and miscellaneous | - | 51,546,207 | 24,180,126 | 75,726,333 |
| Parent, subsidiaries and affiliates | - | 45,725,525 | 61,734,561 | 107,460,086 |
| Preferred stocks | 10,818,000 | - | 1,416,341 | 12,234,341 |
| Common stock - subsidiaries and affiliates | 336,479,889 | - | 112,380,408 | 448,860,297 |
| Common stock - unaffiliated | 866,792,803 | - | 316,374,210 | 1,183,167,013 |
| Derivatives: | | | | |
| Interest rate swaps | - | 7,106,966,037 | - | 7,106,966,037 |
| Options | - | 844,657,162 | - | 844,657,162 |
| Currency swaps | - | 267,631,763 | - | 267,631,763 |
| Forward contracts | - | 62,335,979 | - | 62,335,979 |
| Credit default swaps | - | 191,579 | - | 191,579 |
| Financial futures | - | 157,104,505 | - | 157,104,505 |
| Separate account assets | 45,607,878,319 | 22,610,033,354 | 644,323,923 | 68,862,235,596 |
| Total financial assets carried at fair value | <u>\$ 46,821,969,011</u> | <u>\$ 31,146,881,918</u> | <u>\$ 1,160,409,569</u> | <u>\$ 79,129,260,498</u> |
| Financial liabilities: | | | | |
| Derivatives: | | | | |
| Interest rate swaps | \$ - | \$ 4,769,420,114 | \$ - | \$ 4,769,420,114 |
| Options | - | 4,318,280 | - | 4,318,280 |
| Currency swaps | - | 935,759,705 | - | 935,759,705 |
| Forward contracts | - | 70,234,271 | - | 70,234,271 |
| Credit default swaps | - | 184,972 | - | 184,972 |
| Financial futures | - | 32,292,055 | - | 32,292,055 |
| Total financial liabilities carried at fair value | <u>\$ -</u> | <u>\$ 5,812,209,397</u> | <u>\$ -</u> | <u>\$ 5,812,209,397</u> |

The Company reviews the fair value hierarchy classifications each reporting period. Changes in the observability of the valuation attributes and the level of market activity may result in a reclassification of certain financial assets or liabilities between fair value hierarchy classifications. Such reclassifications are reported as transfers between levels at the beginning fair value for the reporting period in which the changes occur.

For the period ended March 31, 2018, there were no significant transfers between Level 1 and Level 2.

NOTES TO FINANCIAL STATEMENTS

| | December 31, 2017 | | | |
|---|--------------------------|--------------------------|-------------------------|--------------------------|
| | Level 1 | Level 2 | Level 3 | Total |
| Financial assets: | | | | |
| Bonds: | | | | |
| Special revenue | \$ - | \$ 5,949,787 | \$ - | \$ 5,949,787 |
| Industrial and miscellaneous | - | 10,743,493 | 55,266,237 | 66,009,730 |
| Parent, subsidiaries and affiliates | - | 17,535,946 | 60,662,659 | 78,198,605 |
| Preferred stocks | 2,635,664 | - | 1,510,480 | 4,146,144 |
| Common stock - subsidiaries and affiliates | 344,139,041 | - | 109,665,674 | 453,804,715 |
| Common stock - unaffiliated | 901,122,199 | - | 310,576,050 | 1,211,698,249 |
| Derivatives: | | | | |
| Interest rate swaps | - | 7,684,332,071 | - | 7,684,332,071 |
| Options | - | 744,440,948 | - | 744,440,948 |
| Currency swaps | - | 385,416,622 | 1,255,252 | 386,671,874 |
| Forward contracts | - | 13,178,525 | - | 13,178,525 |
| Credit default swaps | - | 481,454 | - | 481,454 |
| Separate account assets | 46,005,788,808 | 22,446,976,398 | 709,516,352 | 69,162,281,558 |
| Total financial assets carried at fair value | <u>\$ 47,253,685,712</u> | <u>\$ 31,309,055,244</u> | <u>\$ 1,248,452,704</u> | <u>\$ 79,811,193,660</u> |
| Financial liabilities: | | | | |
| Derivatives: | | | | |
| Interest rate swaps | \$ - | \$ 5,314,810,301 | \$ 193,806 | \$ 5,315,004,107 |
| Options | - | 6,319,708 | - | 6,319,708 |
| Currency swaps | - | 560,167,926 | 8,432,028 | 568,599,954 |
| Forward contracts | - | 88,671,592 | - | 88,671,592 |
| Credit default swaps | - | 251,192 | - | 251,192 |
| Total financial liabilities carried at fair value | <u>\$ -</u> | <u>\$ 5,970,220,719</u> | <u>\$ 8,625,834</u> | <u>\$ 5,978,846,553</u> |

For the year ended December 31, 2017, \$298,342,115 of unaffiliated common stock were transferred from Level 2 to Level 1.

(2) The following presents changes in the Company's Level 3 financial instruments that are carried at fair value:

| | Balance as of 01/01/2018 | Transfers ⁽¹⁾ | | Gains (Losses) in Net Income | Gains (Losses) in Surplus | Purchases | Issuances | Sales | Settlements | Balance as of 3/31/2018 |
|---|--------------------------------|--------------------------|------------------------|------------------------------------|---------------------------------|---------------------|---------------------|------------------------|-----------------------|-------------------------------|
| Financial assets: | | | | | | | | | | |
| Bonds: | | | | | | | | | | |
| Industrial and miscellaneous | \$ 55,266,237 | \$ - | \$ (28,831,784) | \$ (1,585,248) | \$ (1,443,493) | \$ - | \$ 936,544 | \$ - | \$ (162,130) | \$ 24,180,126 |
| Parent, subsidiaries and affiliates | 60,662,659 | - | - | - | 1,071,902 | - | - | - | - | 61,734,561 |
| Preferred stock | 1,510,480 | - | - | - | (94,139) | - | - | - | - | 1,416,341 |
| Common stock - subsidiaries and affiliates | 109,665,674 | - | (956,129) | - | (162,906) | - | 3,833,769 | - | - | 112,380,408 |
| Common stock - unaffiliated | 310,576,050 | 498,125 | - | 1,723,742 | 6,154,894 | 339,841 | - | - | (2,918,442) | 316,374,210 |
| Derivatives: | | | | | | | | | | |
| Currency swaps | 1,255,252 | - | (1,255,252) | - | - | - | - | - | - | - |
| Separate account assets | 709,516,352 | - | - | 28,713,042 | - | 5,385,644 | - | (99,237,997) | (53,118) | 644,323,923 |
| Total financial assets | <u>\$ 1,248,452,704</u> | <u>\$ 498,125</u> | <u>\$ (31,043,165)</u> | <u>\$ 28,851,536</u> | <u>\$ 5,526,258</u> | <u>\$ 5,725,485</u> | <u>\$ 4,770,313</u> | <u>\$ (99,237,997)</u> | <u>\$ (3,133,690)</u> | <u>\$ 1,160,409,569</u> |
| Financial liabilities: | | | | | | | | | | |
| Derivatives: | | | | | | | | | | |
| Interest rate swaps | \$ 193,806 | \$ - | \$ (193,806) | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Currency swaps | 8,432,028 | - | (8,432,028) | - | - | - | - | - | - | - |
| Total financial liabilities | <u>\$ 8,625,834</u> | <u>\$ -</u> | <u>\$ (8,625,834)</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ -</u> |

⁽¹⁾Level 3 transfers include assets that are consistently carried at fair value but have had a level change, are no longer carried at fair value, or have just begun to be carried at fair value, such as assets with no level changes but a change in the lower of cost or market carrying basis. Industrial and miscellaneous bonds in other transfers are assets that are no longer carried at fair value.

NOTES TO FINANCIAL STATEMENTS

| | Balance | Transfers ⁽¹⁾ | | Gains | Gains | Purchases | Issuances | Sales | Settlements | Balance |
|--|-------------------------|--------------------------|------------------------|---------------------------|------------------------|-----------------------|----------------------|-------------------------|------------------------|-------------------------|
| | as of 01/01/2017 | In | Out | (Losses) in Net Income | (Losses) in Surplus | | | | | as of 12/31/2017 |
| Financial assets: | | | | | | | | | | |
| Bonds: | | | | | | | | | | |
| Industrial and miscellaneous | \$ 56,833,539 | \$ 12,571,531 | \$ (8,096,010) | \$ 684,574 | \$ (2,546,245) | \$ 14,384 | \$ 67,649 | \$ - | \$ (4,263,185) | \$ 55,266,237 |
| Parent, subsidiaries, and affiliates | 51,963,109 | - | - | - | 8,699,550 | - | - | - | - | 60,662,659 |
| Preferred Stock | 2,734,341 | - | (1,798,373) | - | (57,988) | 632,500 | - | - | - | 1,510,480 |
| Common stock - subsidiaries and affiliates | 63,196,191 | - | (956,129) | 9,563 | 13,230,098 | - | 45,517,058 | (318,912) | (11,012,195) | 109,665,674 |
| Common stock - unaffiliated | 188,576,330 | 76,437,829 | (5,838,443) | (5,959,511) | 29,469,544 | 38,162,139 | 288,144 | (7,700,000) | (2,859,982) | 310,576,050 |
| Derivatives: | | | | | | | | | | |
| Currency swaps | - | 6,109,957 | - | (4,854,705) | - | - | - | - | - | 1,255,252 |
| Separate account assets | 737,948,300 | - | (5,069,821) | 55,437,401 | - | 72,084,571 | - | (149,919,175) | (964,924) | 709,516,352 |
| Total financial assets | \$ 1,101,251,810 | \$ 95,119,317 | \$ (21,758,776) | \$ 45,317,322 | \$ 48,794,959 | \$ 110,893,594 | \$ 45,872,851 | \$ (157,938,087) | \$ (19,100,286) | \$ 1,248,452,704 |
| Financial liabilities: | | | | | | | | | | |
| Derivatives: | | | | | | | | | | |
| Interest rate swaps | \$ - | \$ - | \$ - | \$ - | \$ 193,806 | \$ - | \$ - | \$ - | \$ - | \$ 193,806 |
| Currency swaps | - | 3,884,788 | - | - | 4,547,240 | - | - | - | - | 8,432,028 |
| Total financial liabilities | \$ - | \$ 3,884,788 | \$ - | \$ - | \$ 4,741,046 | \$ - | \$ - | \$ - | \$ - | \$ 8,625,834 |

⁽¹⁾Level 3 transfers include assets that are consistently carried at fair value but have had a level change, are no longer carried at fair value, or have just begun to be carried at fair value, such as assets with no level changes but a change in the lower of cost or market carrying basis. The common stock unaffiliated assets were transferred from Level 2 to Level 3 due to a change in the observability of pricing inputs.

- (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 issuances that incorporate the credit quality and industry sector of the issuer. This level also includes securities priced by independent pricing services that use observable inputs. Valuations based on matrix pricing or other similar techniques that utilize significant unobservable inputs or inputs that cannot be derived principally from, or corroborated by, observable market data, including adjustments for illiquidity, delta spread adjustments or spreads to reflect industry trends or specific credit-related issues are classified as Level 3. In addition, inputs including quoted prices for identical or similar securities that are less liquid and based on lower levels of trading activity than securities classified in Level 2 are classified as Level 3.

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

Derivative assets and liabilities - These financial instruments are primarily valued using the market approach. The estimated fair value of derivatives is based primarily on quotations obtained from counterparties and independent sources, such as quoted market values received from brokers. These quotations are compared to internally derived prices and a price challenge is lodged with the counterparties and an independent source when a significant difference cannot be explained by appropriate adjustments to the internal model. When quoted market values are not reliable or available, the value is based upon an internal valuation process using market observable inputs that other market participants would use. Significant inputs to the valuation of derivative financial instruments include overnight index swaps and LIBOR basis curves, interest rate volatility, swap yield curve, currency spot rates, cross currency basis curves and dividend yields. Due to the observability of the significant inputs to these fair value measurements, they are classified as Level 2.

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".

NOTES TO FINANCIAL STATEMENTS

c. The following presents a summary of the carrying values and fair values of the Company's financial instruments:

| | March 31, 2018 | | | | | |
|---|------------------|------------------|----------------|------------------|----------------|------------------------------------|
| | Aggregate | Admitted | | | | Not |
| | Fair Value | Assets | Level 1 | Level 2 | Level 3 | Practicable (Carrying Value) |
| Financial assets: | | | | | | |
| Bonds: | | | | | | |
| U. S. government and agencies | \$ 7,412,486,353 | \$ 7,042,580,016 | \$ - | \$ 7,411,741,130 | \$ 745,223 | - |
| All other governments | 1,248,965,267 | 1,206,795,412 | - | 1,181,024,204 | 67,941,063 | - |
| States, territories and possessions | 642,350,592 | 596,998,432 | - | 642,350,592 | - | - |
| Political subdivisions | 565,125,461 | 532,768,278 | - | 565,125,461 | - | - |
| Special revenue | 6,426,401,746 | 5,875,383,823 | - | 6,416,268,468 | 10,133,278 | - |
| Industrial and miscellaneous | 70,518,159,337 | 69,042,606,860 | - | 40,160,409,761 | 30,357,749,576 | - |
| Parent, subsidiaries and affiliates | 6,744,430,365 | 6,733,229,117 | - | 664,346,982 | 6,080,083,383 | - |
| Preferred stocks | 771,500,609 | 769,214,159 | 30,522,133 | - | 740,978,476 | - |
| Common stocks - subsidiaries and affiliates ⁽¹⁾ | 448,860,297 | 448,860,297 | 336,479,889 | - | 112,380,408 | - |
| Common stocks - unaffiliated | 1,183,167,013 | 1,183,167,013 | 866,792,803 | - | 316,374,210 | - |
| Mortgage loans - commercial | 21,372,108,942 | 21,179,409,057 | - | - | 21,372,108,942 | - |
| Mortgage loans - residential | 1,855,456,719 | 1,911,017,032 | - | - | 1,855,456,719 | - |
| Cash, cash equivalents and short-term investments | 3,442,455,190 | 3,442,455,190 | 94,676,812 | 3,347,778,378 | - | - |
| Derivatives: | | | | | | |
| Interest rate swaps | 7,341,108,916 | 7,106,966,037 | - | 7,341,108,916 | - | - |
| Options | 844,657,162 | 844,657,162 | - | 844,657,162 | - | - |
| Currency swaps | 267,631,763 | 267,631,763 | - | 267,631,763 | - | - |
| Forward contracts | 62,335,979 | 62,335,979 | - | 62,335,979 | - | - |
| Credit default swaps | 40,582,327 | 45,205,357 | - | 40,582,327 | - | - |
| Financial futures | 157,104,505 | 157,104,505 | - | 157,104,505 | - | - |
| Separate account assets | 68,862,235,596 | 68,862,235,596 | 45,607,878,319 | 22,610,033,354 | 644,323,923 | - |
| Financial liabilities: | | | | | | |
| Repurchase agreements | 4,100,394,564 | 4,100,394,564 | - | 4,100,394,564 | - | - |
| Commercial paper | 249,814,549 | 249,814,549 | - | 249,814,549 | - | - |
| Guaranteed interest contracts | 9,335,890,729 | 9,482,252,616 | - | - | 9,335,890,729 | - |
| Group annuity contracts and other deposits | 17,797,381,035 | 17,775,828,435 | - | - | 17,797,381,035 | - |
| Individual annuity contracts | 7,817,389,811 | 6,482,215,760 | - | - | 7,817,389,811 | - |
| Supplementary contracts | 1,165,732,918 | 1,164,556,847 | - | - | 1,165,732,918 | - |
| Derivatives: | | | | | | |
| Interest rate swaps | 5,053,879,389 | 4,769,420,114 | - | 5,053,879,389 | - | - |
| Options | 4,318,280 | 4,318,280 | - | 4,318,280 | - | - |
| Currency swaps | 935,759,705 | 935,759,705 | - | 935,759,705 | - | - |
| Forward contracts | 96,502,177 | 70,234,271 | - | 96,502,177 | - | - |
| Credit default swaps | 410,725 | 464,290 | - | 410,725 | - | - |
| Financial futures | 32,292,055 | 32,292,055 | - | 32,292,055 | - | - |

⁽¹⁾Common stocks - subsidiaries and affiliates do not include unconsolidated subsidiaries, which had a statutory carrying value of \$12,985,032,807.

NOTES TO FINANCIAL STATEMENTS

December 31, 2017

| | Aggregate | | Admitted | | | Not Practicable (Carrying Value) |
|--|------------------|------------------|----------------|------------------|----------------|---|
| | Fair Value | Assets | Level 1 | Level 2 | Level 3 | |
| Financial assets: | | | | | | |
| Bonds: | | | | | | |
| U. S. government and agencies | \$ 7,697,358,100 | \$ 7,148,646,302 | \$ - | \$ 7,696,140,916 | \$ 1,217,184 | \$ - |
| All other governments | 1,269,456,629 | 1,180,636,469 | - | 1,199,532,954 | 69,923,675 | - |
| States, territories and possessions | 650,787,369 | 595,739,067 | - | 650,787,369 | - | - |
| Political subdivisions | 576,491,812 | 531,896,852 | - | 576,491,812 | - | - |
| Special revenue | 6,517,741,346 | 5,813,925,043 | - | 6,507,057,309 | 10,684,037 | - |
| Industrial and miscellaneous | 71,341,958,072 | 68,140,550,670 | - | 41,332,593,290 | 30,009,364,782 | - |
| Parent, subsidiaries and affiliates | 7,133,043,119 | 7,023,370,215 | - | 1,074,523,550 | 6,058,519,569 | - |
| Preferred stocks | 786,017,714 | 767,807,089 | 35,764,970 | - | 750,252,744 | - |
| Common stock - subsidiaries and affiliates ⁽¹⁾ | 453,804,715 | 453,804,715 | 344,139,041 | - | 109,665,674 | - |
| Common stock - unaffiliated | 1,211,698,249 | 1,211,698,249 | 901,122,199 | - | 310,576,050 | - |
| Mortgage loans - commercial | 21,300,839,874 | 20,776,516,041 | - | - | 21,300,839,874 | - |
| Mortgage loans - residential | 1,760,314,846 | 1,803,330,578 | - | - | 1,760,314,846 | - |
| Cash, cash equivalents and short-term investments | 3,579,565,622 | 3,579,565,622 | 218,304,101 | 3,361,261,521 | - | - |
| Derivatives: | | | | | | |
| Interest rate swaps | 8,269,196,318 | 7,684,332,071 | - | 8,269,196,318 | - | - |
| Options | 744,440,948 | 744,440,948 | - | 744,440,948 | - | - |
| Currency swaps | 386,671,874 | 386,671,874 | - | 385,416,622 | 1,255,252 | - |
| Forward contracts | 22,365,809 | 13,178,525 | - | 22,365,809 | - | - |
| Credit default swaps | 35,727,719 | 28,657,163 | - | 35,727,719 | - | - |
| Separate account assets | 69,162,281,558 | 69,162,281,558 | 46,005,788,808 | 22,446,976,398 | 709,516,352 | - |
| Financial liabilities: | | | | | | |
| Repurchase agreements | 4,203,824,405 | 4,203,824,405 | - | 4,203,824,405 | - | - |
| Commercial paper | 249,867,743 | 249,867,743 | - | 249,867,743 | - | - |
| Guaranteed investment contracts | 8,549,379,509 | 8,834,233,416 | - | - | 8,549,379,509 | - |
| Group annuity contracts and other deposits | 18,505,272,005 | 18,132,442,262 | - | - | 18,505,272,005 | - |
| Individual annuity contracts | 8,009,431,860 | 6,570,314,507 | - | - | 8,009,431,860 | - |
| Supplementary contracts | 1,167,981,644 | 1,166,805,456 | - | - | 1,167,981,644 | - |
| Derivatives: | | | | | | |
| Interest rate swaps | 5,373,255,255 | 5,315,004,107 | - | 5,373,061,449 | 193,806 | - |
| Options | 6,319,708 | 6,319,708 | - | 6,319,708 | - | - |
| Currency swaps | 568,599,954 | 568,599,954 | - | 560,167,926 | 8,432,028 | - |
| Forward contracts | 88,806,435 | 88,671,592 | - | 88,806,435 | - | - |
| Credit default swaps | 414,480 | 663,996 | - | 414,480 | - | - |

⁽¹⁾Common stocks - subsidiaries and affiliates do not include unconsolidated subsidiaries, which had statutory carrying values of \$13,969,762,575.

- d. As of March 31, 2018 and December 31, 2017, the Company had no investments where it was not practicable to estimate fair value.

Note 21 – Other Items

- a. Unusual or infrequent items - No change
- b. Troubled debt restructuring - No change
- c. Other disclosures and unusual items:

Common stocks of unconsolidated subsidiaries, primarily MMHLLC and MassMutual International LLC (MMI), are accounted for using the statutory equity method. The Company accounts for the value of MMHLLC and MMI at its underlying U.S. generally accepted accounting principles (GAAP) equity value adjusted to remove certain nonadmitted and intangible assets. MMHLLC's value is also adjusted by a portion of its noncontrolling interests (NCI) and appropriated retained earnings, after consideration of MMHLLC's fair value and the Company's capital levels. The Division has affirmed the statutory recognition of the Company's application of the NCI guidelines in MMHLLC's statutory carrying value. However, the Company has limited this recognition to \$2,598,529,412 as of March 31, 2018 and \$2,703,014,763 as of December 31, 2017. Operating results, less dividends declared, for MMHLLC are reflected as net unrealized capital gains (losses) in the Statutory Statements of Changes in Surplus. Dividend distributions declared from MMHLLC are recorded in net investment income when declared and are limited to MMHLLC's U.S. GAAP retained earnings. The cost basis of common stocks – subsidiaries and affiliates is adjusted for impairments deemed to be other than temporary.

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, currency exchange risk and credit risk. The combined impact of these risks could have a material, adverse effect on the Company's financial statements or result in operating losses in future periods. The Company employs the use of reinsurance, portfolio diversification, asset/liability management processes and other risk management techniques to mitigate the impact of these risks. This condensed risks and uncertainties disclosure should be read in conjunction with the disclosure in the Company's 2015 Annual Statement.

NOTES TO FINANCIAL STATEMENTS

Insurance and underwriting risks

The Company prices its products based on estimated benefit payments reflecting assumptions with respect to mortality, morbidity, 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. For participating whole life products, the Company's dividends to policyholders primarily reflect the difference between actual investment, mortality, expense and persistency experience and the experience embedded in the whole life premiums and guaranteed elements. The Company also 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 Company uses derivatives, such as interest rate swaps and swaptions, as well as synthetic assets to reduce interest rate and duration imbalances determined in asset/liability analyses.

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.

Currency exchange risk

The Company has currency risk due to its non-U.S. dollar investments and medium-term notes along with its indirect international operations. The Company mitigates currency risk through the use of cross-currency swaps and forward contracts. Cross-currency swaps are used to minimize currency risk for certain non-U.S. dollar assets and liabilities through a pre-specified exchange of interest and principal. Forward contracts are used to hedge movements in exchange rates.

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 global capital markets or in particular 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. Global market factors, including interest rates, credit spread quality, equity prices, real estate markets, foreign currency exchange rates, 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.

Significant volatility in the financial markets, and government actions taken in response, may exacerbate some of the risks the Company faces. The Company holds investments in energy and certain other commodity sectors, which have experienced similar overall market volatility and declines. With the continued weaker economic outlook in these sectors, there may be an increase in reported default rates or potential downgrades to the ratings of companies exposed to these sectors. In addition, concerns over the solvency of certain countries and sovereignties and the entities that have significant exposure to their debt have created market volatility. This volatility may continue to affect the performance of various asset classes until there is an ultimate resolution of the sovereign debt related concerns.

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. Business interruption insurance recoveries - No change
- e. State transferrable tax credits - No change
- f. Subprime mortgage related risk exposure:
 - (1) No change
 - (2) No change

NOTES TO FINANCIAL STATEMENTS

(3) Direct exposure through other investments.

| Alt-A: | March 31, 2018 | | | Three Months Ended March 31, 2018 |
|---|-----------------------|-----------------------|-----------------------|--------------------------------------|
| | Actual Cost | Carrying Value | Fair Value | OTTI |
| a. Residential mortgage-backed securities | \$ 257,194,373 | \$ 289,838,951 | \$ 346,754,429 | \$ 157,509 |
| b. Commercial mortgage-backed securities | - | - | - | - |
| c. Collateralized debt obligations | - | - | - | - |
| d. Structured securities | - | - | - | - |
| e. Equity investments in SCAs * | 19,000,535 | 21,054,568 | 24,715,689 | 27,511 |
| f. Other assets | - | - | - | - |
| g. Total | <u>\$ 276,194,908</u> | <u>\$ 310,893,519</u> | <u>\$ 371,470,118</u> | <u>\$ 185,020</u> |

| Alt-A: | December 31, 2017 | | | Year Ended December 31, 2017 |
|---|-----------------------|-----------------------|-----------------------|---------------------------------|
| | Actual Cost | Carrying Value | Fair Value | OTTI |
| a. Residential mortgage-backed securities | \$ 269,619,940 | \$ 298,759,915 | \$ 362,060,389 | \$ 48,142 |
| b. Commercial mortgage-backed securities | - | - | - | - |
| c. Collateralized debt obligations | - | - | - | - |
| d. Structured securities | - | - | - | - |
| e. Equity investments in SCAs * | 19,891,348 | 21,721,100 | 25,686,913 | 14,692 |
| f. Other assets | - | - | - | - |
| g. Total | <u>\$ 289,511,288</u> | <u>\$ 320,481,015</u> | <u>\$ 387,747,302</u> | <u>\$ 62,834</u> |

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

g. Retained asset accounts - No change

Note 22 – Events Subsequent

Management of the Company has evaluated subsequent events through May 11, 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 - No Change**Note 24 – Retrospectively Rated Contracts and Contracts Subject to Redetermination**

a – d. No change.

e. The Company does not write any accident and health insurance premium that is subject to the Affordable Care Act risk-sharing provisions.

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 - No change**Note 27 – Structured Settlements - No change****Note 28 – Health Care Receivables - No change****Note 29 – Participating Policies - No change****Note 30 – Premium Deficiency Reserves - No change****Note 31 – Reserves for Life Contracts and Annuity Contracts - No change****Note 32 – Analysis of Annuity Actuarial Reserves and Deposit Type Liabilities by Withdrawal Characteristics - No change****Note 33 – Premium and Annuity Considerations Deferred and Uncollected - No change****Note 34 – Separate Accounts - No change****Note 35 – Loss/Claim Adjustment Expenses - No change**

GENERAL INTERROGATORIES

PART 1 - COMMON INTERROGATORIES

GENERAL

- 1.1 Did the reporting entity experience any material transactions requiring the filing of Disclosure of Material Transactions with the State of Domicile, as required by the Model Act? Yes [] No [X]
- 1.2 If yes, has the report been filed with the domiciliary state? Yes [] No []
- 2.1 Has any change been made during the year of this statement in the charter, by-laws, articles of incorporation, or deed of settlement of the reporting entity? Yes [] No [X]
- 2.2 If yes, date of change:
- 3.1 Is the reporting entity a member of an Insurance Holding Company System consisting of two or more affiliated persons, one or more of which is an insurer? Yes [X] No []
If yes, complete Schedule Y, Parts 1 and 1A.
- 3.2 Have there been any substantial changes in the organizational chart since the prior quarter end? Yes [] No [X]
- 3.3 If the response to 3.2 is yes, provide a brief description of those changes.
- 3.4 Is the reporting entity publicly traded or a member of a publicly traded group? Yes [] No [X]
- 3.5 If the response to 3.4 is yes, provide the CIK (Central Index Key) code issued by the SEC for the entity/group.
- 4.1 Has the reporting entity been a party to a merger or consolidation during the period covered by this statement? Yes [] No [X]
- 4.2 If yes, provide the name of the entity, NAIC Company Code, and state of domicile (use two letter state abbreviation) for any entity that has ceased to exist as a result of the merger or consolidation.

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

5. If the reporting entity is subject to a management agreement, including third-party administrator(s), managing general agent(s), attorney-in-fact, or similar agreement, have there been any significant changes regarding the terms of the agreement or principals involved? Yes [] No [X] N/A []
If yes, attach an explanation.
- 6.1 State as of what date the latest financial examination of the reporting entity was made or is being made. 12/31/2014
- 6.2 State the as of date that the latest financial examination report became available from either the state of domicile or the reporting entity. This date should be the date of the examined balance sheet and not the date the report was completed or released. 12/31/2014
- 6.3 State as of what date the latest financial examination report became available to other states or the public from either the state of domicile or the reporting entity. This is the release date or completion date of the examination report and not the date of the examination (balance sheet date). 06/30/2016
- 6.4 By what department or departments?
Commonwealth of Massachusetts Division of Insurance
- 6.5 Have all financial statement adjustments within the latest financial examination report been accounted for in a subsequent financial statement filed with Departments? Yes [] No [] N/A [X]
- 6.6 Have all of the recommendations within the latest financial examination report been complied with? Yes [X] No [] N/A []
- 7.1 Has this reporting entity had any Certificates of Authority, licenses or registrations (including corporate registration, if applicable) suspended or revoked by any governmental entity during the reporting period? Yes [] No [X]
- 7.2 If yes, give full information:
- 8.1 Is the company a subsidiary of a bank holding company regulated by the Federal Reserve Board? Yes [] No [X]
- 8.2 If response to 8.1 is yes, please identify the name of the bank holding company.
- 8.3 Is the company affiliated with one or more banks, thrifts or securities firms? Yes [X] No []
- 8.4 If response to 8.3 is yes, please provide below the names and location (city and state of the main office) of any affiliates regulated by a federal regulatory services agency [i.e. the Federal Reserve Board (FRB), the Office of the Comptroller of the Currency (OCC), the Federal Deposit Insurance Corporation (FDIC) and the Securities Exchange Commission (SEC)] and identify the affiliate's primary federal regulator.

| 1 Affiliate Name | 2 Location (City, State) | 3 FRB | 4 OCC | 5 FDIC | 6 SEC |
|---|-----------------------------|----------|----------|-----------|----------|
| Baring International Investment Limited | London, UK | | | | YES |
| Barings Securities, LLC | Boston, MA | | | | YES |
| MML Distributors, LLC | Enfield, CT | | | | YES |
| MML Investment Advisers, LLC | Enfield, CT | | | | YES |
| MML Investors Services, LLC | Springfield, MA | | | | YES |
| MML Strategic Distributors, LLC | Springfield, MA | | | | YES |
| MMLISI Financial Alliances, LLC | Springfield, MA | | | | YES |
| OC Private Capital, LLC | New York, NY | | | | YES |
| OppenheimerFunds Distributor, Inc. | New York, NY | | | | YES |
| The MassMutual Trust Company, FSB | Enfield, CT | | YES | | |

GENERAL INTERROGATORIES

- 9.1 Are the senior officers (principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions) of the reporting entity subject to a code of ethics, which includes the following standards? Yes [X] No []
- (a) Honest and ethical conduct, including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships;
- (b) Full, fair, accurate, timely and understandable disclosure in the periodic reports required to be filed by the reporting entity;
- (c) Compliance with applicable governmental laws, rules and regulations;
- (d) The prompt internal reporting of violations to an appropriate person or persons identified in the code; and
- (e) Accountability for adherence to the code.
- 9.11 If the response to 9.1 is No, please explain:
- 9.2 Has the code of ethics for senior managers been amended? Yes [] No [X]
- 9.21 If the response to 9.2 is Yes, provide information related to amendment(s).
- 9.3 Have any provisions of the code of ethics been waived for any of the specified officers? Yes [] No [X]
- 9.31 If the response to 9.3 is Yes, provide the nature of any waiver(s).

FINANCIAL

- 10.1 Does the reporting entity report any amounts due from parent, subsidiaries or affiliates on Page 2 of this statement? Yes [X] No []
- 10.2 If yes, indicate any amounts receivable from parent included in the Page 2 amount: \$0

INVESTMENT

- 11.1 Were any of the stocks, bonds, or other assets of the reporting entity loaned, placed under option agreement, or otherwise made available for use by another person? (Exclude securities under securities lending agreements.) Yes [X] No []
- 11.2 If yes, give full and complete information relating thereto:
 Repurchase agreements, Letter stock or securities restricted as to sale - excluding FHLB Capital Stock, FHLB Capital Stock, On deposit with states, pledged as collateral - excluding collateral pledged to an FHLB and Pledged as collateral to FHLB - including assets backing funding agreements
12. Amount of real estate and mortgages held in other invested assets in Schedule BA: \$1,719,967,063
13. Amount of real estate and mortgages held in short-term investments: \$
- 14.1 Does the reporting entity have any investments in parent, subsidiaries and affiliates? Yes [X] No []
- 14.2 If yes, please complete the following:
- | | 1 | 2 |
|---|---|--|
| | Prior Year-End Book/Adjusted Carrying Value | Current Quarter Book/Adjusted Carrying Value |
| 14.21 Bonds | \$ 7,024,093,120 | \$ 6,733,229,117 |
| 14.22 Preferred Stock | \$ | \$ |
| 14.23 Common Stock | \$ 14,002,443,719 | \$ 13,444,131,792 |
| 14.24 Short-Term Investments | \$ | \$ |
| 14.25 Mortgage Loans on Real Estate | \$ | \$ |
| 14.26 All Other | \$ 4,536,580,572 | \$ 4,634,387,109 |
| 14.27 Total Investment in Parent, Subsidiaries and Affiliates (Subtotal Lines 14.21 to 14.26) | \$ 25,563,117,411 | \$ 24,811,748,018 |
| 14.28 Total Investment in Parent included in Lines 14.21 to 14.26 above | \$ | \$ |
- 15.1 Has the reporting entity entered into any hedging transactions reported on Schedule DB? Yes [X] No []
- 15.2 If yes, has a comprehensive description of the hedging program been made available to the domiciliary state? Yes [X] No []
 If no, attach a description with this statement.

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company
GENERAL INTERROGATORIES

16. For the reporting entity's security lending program, state the amount of the following as of the current statement date:
- 16.1 Total fair value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2 \$
- 16.2 Total book adjusted/carrying value of reinvested collateral assets reported on Schedule DL, Parts 1 and 2 \$
- 16.3 Total payable for securities lending reported on the liability page \$

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

| 1 Name of Custodian(s) | 2 Custodian Address |
|------------------------------------|---|
| Citibank, N.A. | 333 West 34th Street, New York, NY 10001 |
| JP Morgan Chase Bank N.A. | 1 Chase Manhattan Plaza, 19th Floor, New York, NY 10005 |
| Northern Trust | 50 South LaSalle Street, Chicago, IL 60603 |
| State Street Global Services | 801 Pennsylvania Avenue, Kansas City, MO 64105 |

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

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

- 17.3 Have there been any changes, including name changes, in the custodian(s) identified in 17.1 during the current quarter? Yes [] No [X]
- 17.4 If yes, give full information relating thereto:

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

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

| 1 Name of Firm or Individual | 2 Affiliation |
|--|------------------|
| Apollo Aviation Group Capital Markets LLC | U..... |
| OFI Institutional Asset Management, Inc. | A..... |
| Barings LLC | A..... |
| Franklin Advisers, Inc. | U..... |
| Tortoise Capital Advisors, L.L.C. | U..... |
| PIMCO- Pacific Investment Management Company LLC | U..... |
| Earnest Partners LLC | U..... |
| KA Fund Advisors LLC | U..... |
| IFM Investors Pty Ltd | U..... |
| Ashmore Investment Management Limited | U..... |
| Jefferies Finance LLC | A..... |
| 20 Gates Management, LLC | U..... |

- 17.5097 For those firms/individuals listed in the table for Question 17.5, do any firms/individuals unaffiliated with the reporting entity (i.e. designated with a "U") manage more than 10% of the reporting entity's assets? Yes [] No [X]

- 17.5098 For firms/individuals unaffiliated with the reporting entity (i.e. designated with a "U") listed in the table for Question 17.5, does the total assets under management aggregate to more than 50% of the reporting entity's assets? Yes [] No [X]

- 17.6 For those firms or individuals listed in the table for 17.5 with an affiliation code of "A" (affiliated) or "U" (unaffiliated), provide the information for the table below.

| 1 Central Registration Depository Number | 2 Name of Firm or Individual | 3 Legal Entity Identifier (LEI) | 4 Registered With | 5 Investment Management Agreement (IMA) Filed |
|---|--|------------------------------------|----------------------|--|
| 168456 | Apollo Aviation Group Capital Markets LLC .... | ..... | SEC | NO..... |
| 110363 | OFI Institutional Asset Management, Inc. .... | ..... | SEC | DS..... |
| 106006 | Barings LLC | R6ZXK5P01NP6HXS1S07 | SEC | DS..... |
| 104517 | Franklin Advisers, Inc. .... | ..... | SEC | NO..... |
| 123711 | Tortoise Capital Advisors, L.L.C. .... | ..... | SEC | NO..... |
| 104559 | PIMCO- Pacific Investment Management Company LLC ..... | ..... | SEC | NO..... |
| 107926 | Earnest Partners LLC ..... | ..... | SEC | NO..... |
| 141037 | KA Fund Advisors LLC ..... | ..... | SEC | NO..... |
| 162754 | IFM Investors Pty Ltd ..... | ..... | SEC | NO..... |
| 185402 | Ashmore Investment Management Limited | R6ZXK5P01NP6HXS1S07 | SEC | NO..... |
| 162264 | Jefferies Finance LLC ..... | ..... | SEC | DS..... |
| 155480 | 20 Gates Management, LLC ..... | ..... | SEC | NO..... |

- 18.1 Have all the filing requirements of the Purposes and Procedures Manual of the NAIC Investment Analysis Office been followed? Yes [] No [X]
- 18.2 If no, list exceptions:

At 03/31/2018, 88 issues for 71 issuers did not meet the filing requirements of the Purposes and Procedures Manual. The majority of these issues currently lack one or more of the following: Valid cusip/PPN, audited financials and/or executed legal documentation. Exceptions totaled \$614,963,382 or 0.58% of all assets.

19. By self-designating 5*GI securities, the reporting entity is certifying the following elements for 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 [X] No []

GENERAL INTERROGATORIES

PART 2 - LIFE & HEALTH

| | |
|---|--------------------------|
| 1. Report the statement value of mortgage loans at the end of this reporting period for the following categories: | 1 Amount |
| 1.1 Long-Term Mortgages In Good Standing | |
| 1.11 Farm Mortgages | \$ 1,670,006 |
| 1.12 Residential Mortgages | \$ 1,911,057,092 |
| 1.13 Commercial Mortgages | \$ 21,177,698,991 |
| 1.14 Total Mortgages in Good Standing | <u>\$ 23,090,426,089</u> |
| 1.2 Long-Term Mortgages In Good Standing with Restructured Terms | |
| 1.21 Total Mortgages in Good Standing with Restructured Terms | <u>\$</u> |
| 1.3 Long-Term Mortgage Loans Upon which Interest is Overdue more than Three Months | |
| 1.31 Farm Mortgages | \$ |
| 1.32 Residential Mortgages | \$ |
| 1.33 Commercial Mortgages | \$ |
| 1.34 Total Mortgages with Interest Overdue more than Three Months | <u>\$</u> |
| 1.4 Long-Term Mortgage Loans in Process of Foreclosure | |
| 1.41 Farm Mortgages | \$ |
| 1.42 Residential Mortgages | \$ |
| 1.43 Commercial Mortgages | \$ |
| 1.44 Total Mortgages in Process of Foreclosure | \$ |
| 1.5 Total Mortgage Loans (Lines 1.14 + 1.21 + 1.34 + 1.44) (Page 2, Column 3, Lines 3.1 + 3.2) | <u>\$ 23,090,426,089</u> |
| 1.6 Long-Term Mortgages Foreclosed, Properties Transferred to Real Estate in Current Quarter | |
| 1.61 Farm Mortgages | \$ |
| 1.62 Residential Mortgages | \$ |
| 1.63 Commercial Mortgages | \$ |
| 1.64 Total Mortgages Foreclosed and Transferred to Real Estate | <u>\$</u> |
| 2. Operating Percentages: | |
| 2.1 A&H loss percent | 43.703 % |
| 2.2 A&H cost containment percent | 1.000 % |
| 2.3 A&H expense percent excluding cost containment expenses | 27.725 % |
| 3.1 Do you act as a custodian for health savings accounts? | Yes [] No [X] |
| 3.2 If yes, please provide the amount of custodial funds held as of the reporting date | \$ |
| 3.3 Do you act as an administrator for health savings accounts? | Yes [] No [X] |
| 3.4 If yes, please provide the balance of the funds administered as of the reporting date | \$ |
| 4. Is the reporting entity licensed or chartered, registered, qualified, eligible or writing business in at least two states? | Yes [X] No [] |
| 4.1 If no, does the reporting entity assume reinsurance business that covers risks residing in at least one state other than the state of domicile of the reporting entity? | Yes [] No [] |

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE S - CEDED REINSURANCE

Showing All New Reinsurance Treaties - Current Year to Date

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-------------------|------------|----------------|---------------------------------------|--------------------------|---------------------------|-------------------|--|--|
| NAIC Company Code | ID Number | Effective Date | Name of Reinsurer | Domiciliary Jurisdiction | Type of Reinsurance Ceded | Type of Reinsurer | Certified Reinsurer Rating (1 through 6) | Effective Date of Certified Reinsurer Rating |
| .66346 | 58-0828824 | .04/15/2017 | Munich American Reassurance (MUJ2) | GA | .CO/I | Authorized | | |
| .93572 | 43-1235868 | .12/31/2017 | RGA Reinsurance Co. (GA17) | MO | YRT/G | Authorized | | |
| .97071 | 13-3126819 | .01/01/2018 | SCOR Global Life USA Reins Co (SUE0) | DE | YRT/G | Authorized | | |
| .97071 | 13-3126819 | .01/01/2018 | SCOR Global Life USA Reins Co (SUE8) | DE | YRT/G | Authorized | | |
| .97071 | 13-3126819 | .04/15/2017 | SCOR Global Life USA Reins Co (SUJ3) | DE | YRT/I | Authorized | | |
| .82627 | 06-0839705 | .01/01/2018 | Swiss Re Life & Health America (SRE0) | MO | YRT/G | Authorized | | |
| .82627 | 06-0839705 | .01/01/2018 | Swiss Re Life & Health America (SRE8) | MO | YRT/G | Authorized | | |
| .82627 | 06-0839705 | .04/15/2017 | Swiss Re Life & Health America (SRU2) | MO | .CO/I | Authorized | | |

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

PART 1 – ORGANIZATIONAL CHART

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

| | <u>Federal Tax ID</u> | <u>NAIC Co Code</u> | <u>State of Domicile</u> |
|--|-----------------------|---------------------|--------------------------|
| MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY | 04-1590850 | 65935 | Massachusetts |
| Direct & Indirect Owned Subsidiaries: | | | |
| C.M. Life Insurance Company | 06-1041383 | 93432 | Connecticut |
| MML Bay State Life Insurance Company | 43-0581430 | 70416 | Connecticut |
| CML 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 | | Delaware |
| Lyme Adirondack Timberlands II, LLC | None | | Delaware |
| WP-SC, LLC* | 26-4441097 | | Delaware |
| MSP-SC, LLC | 04-1590850 | | Delaware |
| Country Club Office Plaza LLC* | 27-1435692 | | Delaware |
| Insurance Road LLC | 04-1590850 | | Delaware |
| MassMutual Trad Private Equity LLC | 04-1590850 | | Delaware |
| MassMutual Intellectual Property LLC | 04-1590850 | | Delaware |
| Invicta Advisors LLC | 56-2574604 | | Delaware |
| EM Opportunities LLC | None | | Delaware |
| Jefferies Finance LLC | 27-0105644 | | Delaware |
| Apex Credit Partners LLC | None | | Delaware |
| JFIN Fund III LLC | None | | Delaware |
| JFIN Asset Management LLC | None | | Delaware |
| JFAM GP LLC | None | | Delaware |
| JFAM GP LP | None | | Delaware |
| JFAM Loan Fund, LP | None | | Delaware |
| JFIN Revolver Holdings LLC | None | | Delaware |
| JFIN Co-Issuer Corporation | None | | Delaware |
| JFIN Europe GP, S.a.r.l. | None | | Luxembourg |
| Jefferies Finance Europe, SCSp | None | | Luxembourg |
| Jefferies Finance Business Credit LLC | None | | Delaware |
| JFIN Business Credit Fund I LLC | None | | Delaware |
| JFIN High Yield Investments LLC | None | | Delaware |
| JFIN LC Fund LLC | None | | Delaware |
| JFIN Revolver CLO Holdings LLC | None | | Delaware |

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

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

PART 1 – ORGANIZATIONAL CHART

| | <u>Federal Tax ID</u> | <u>NAIC Co Code</u> | <u>State of Domicile</u> |
|---|-----------------------|---------------------|--------------------------|
| JFIN CLO 2007 Ltd. | None | | Cayman Islands |
| 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 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 |
| MML Investors Services, LLC | 04-1590850 | | Massachusetts |

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

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

PART 1 – ORGANIZATIONAL CHART

| | <u>Federal Tax ID</u> | <u>NAIC Co Code</u> | <u>State of Domicile</u> |
|---|-----------------------|---------------------|---|
| 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 |
| Barings 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 Sàrl | None | | Switzerland |
| Baring France SAS | 98-0497550 | | France |
| Baring Fund Managers Limited | 98-0457586 | | United Kingdom |
| Baring Pension Trustees Limited | 98-0457574 | | United Kingdom |
| Baring Investment Services Limited | 98-0457578 | | United Kingdom |

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

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

PART 1 – ORGANIZATIONAL CHART

| | <u>Federal Tax ID</u> | <u>NAIC Co Code</u> | <u>State of Domicile</u> |
|--|-----------------------|---------------------|--------------------------|
| Barings 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 (U.K.) Limited | 98-0432153 | | 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 |
| 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 Direct Lending GP Ltd. | None | | Cayman Islands |
| 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 |
| Benton Street Advisors, Inc. | 98-0536233 | | Cayman Islands |

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

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

PART 1 – ORGANIZATIONAL CHART

| | <u>Federal Tax ID</u> | <u>NAIC Co Code</u> | <u>State of Domicile</u> |
|---|-----------------------|---------------------|---|
| Great Lakes III GP, LLC | 04-1590850 | | Delaware |
| Lake Jackson LLC | None | | Delaware |
| Loan Strategies Management LLC | 04-1590850 | | Delaware |
| Mezzco LLC | 04-1590850 | | Delaware |
| Mezzco 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 |
| OFI Global Institutional, Inc. | 13-4160541 | | New York |
| HarbourView Asset Management Corporation | 22-2697140 | | New York |
| OC Private Capital, LLC | None | | Delaware |
| OFI Global Trust Company | 13-3459790 | | New York |
| OFI International, Ltd. | None | | United Kingdom |
| SNW Asset Management Corporation | None | | Delaware |
| 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 | | Delaware |
| 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 |
| Protective Capital (International) Limited | 98-0610331 | | Hong Kong, Special Administrative Region of China |

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

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

PART 1 – ORGANIZATIONAL CHART

| | <u>Federal Tax ID</u> | <u>NAIC Co Code</u> | <u>State of Domicile</u> |
|--|-----------------------|---------------------|--------------------------|
| MassMutual Life Insurance Company | None | | Japan |
| MassMutual Internacional (Chile) SpA | 98-1033127 | | Chile |
| MML Management Corporation | 04-2443240 | | Massachusetts |
| MassMutual International Holding MSC, Inc. | 04-3548444 | | Massachusetts |
| MassMutual Holding MSC, Inc. | 04-3341767 | | 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 rd 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 |
| Barings Global Private Loan Fund | None | | Luxembourg |

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

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

PART 1 – ORGANIZATIONAL CHART

| | <u>Federal Tax ID</u> | <u>NAIC Co Code</u> | <u>State of Domicile</u> |
|---|------------------------|---------------------|--------------------------|
| Barings Global Real Assets Fund LP | 82-3867745 | | Delaware |
| Barings Global Special Situations Credit Fund 3 | None | | Ireland |
| 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 |
| Benchmark 2018-B2 Mortgage Trust | 38-4059932 | | New York |
| 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 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 |
| Oakley Grove Development LLC | 20-3887968 | | Delaware |
| Old Pasco Properties LLC | 20-3887968 | | Delaware |
| RB Apartments LLC | 82-4411267 | | 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 |

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

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

PART 1 – ORGANIZATIONAL CHART

| | <u>Federal Tax ID</u> | <u>NAIC Co Code</u> | <u>State of Domicile</u> |
|---|-----------------------|---------------------|--------------------------|
| South Pasco Properties LLC | 20-3887968 | | Delaware |
| 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 th Street Hotel LLC | 05-1590850 | | Delaware |
| Barings Affiliates & Funds: | | | |
| 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 |
| 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 |
| Budapester Strasse LLC | 81-4382111 | | Delaware |
| Calgary Railway Holding LLC* | 82-2285211 | | 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 |
| CREA/LYON West Gateway, LLC* | 26-2399532 | | Delaware |
| CREA Madison Member LLC | 81-0890084 | | Delaware |
| CCB Montford Park LLC* | 82-1563809 | | Delaware |
| Danville Riverwalk Venture, LLC | 82-2783393 | | Delaware |
| Fan Pier Development LLC* | 20-3347091 | | Delaware |
| Farringdon London Holdings LLC* | 46-3880526 | | Delaware |

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

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

PART 1 – ORGANIZATIONAL CHART

| | <u>Federal Tax ID</u> | <u>NAIC Co Code</u> | <u>State of Domicile</u> |
|--|-----------------------|---------------------|--------------------------|
| 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 |
| 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 |
| Willowood 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 |
| MassMutual Select Small Capital Value Equity Fund | 02-0769954 | | Massachusetts |
| MassMutual Select Small Company Value Fund | 04-3584140 | | Massachusetts |
| MassMutual Select T. Rowe Price Retirement 2005 Fund | 82-3347422 | | Massachusetts |
| MassMutual Select T. Rowe Price Retirement 2010 Fund | 82-3355639 | | Massachusetts |
| MassMutual Select T. Rowe Price Retirement 2015 Fund | 82-3382389 | | Massachusetts |
| MassMutual Select T. Rowe Price Retirement 2020 Fund | 82-3396442 | | Massachusetts |
| MassMutual Select T. Rowe Price Retirement 2025 Fund | 82-3417420 | | Massachusetts |
| MassMutual Select T. Rowe Price Retirement 2030 Fund | 82-3430358 | | Massachusetts |
| MassMutual Select T. Rowe Price Retirement 2035 Fund | 82-3439837 | | Massachusetts |
| MassMutual Select T. Rowe Price Retirement 2040 Fund | 82-3451779 | | Massachusetts |
| MassMutual Select T. Rowe Price Retirement 2045 Fund | 82-3472295 | | Massachusetts |

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

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

PART 1 – ORGANIZATIONAL CHART

| | <u>Federal Tax ID</u> | <u>NAIC Co Code</u> | <u>State of Domicile</u> |
|--|-----------------------|---------------------|--------------------------|
| MassMutual Select T. Rowe Price Retirement 2050 Fund | 82-3481715 | | Massachusetts |
| MassMutual Select T. Rowe Price Retirement 2055 Fund | 82-3502011 | | Massachusetts |
| MassMutual Select T. Rowe Price Retirement 2060 Fund | 82-3525148 | | Massachusetts |
| MassMutual Select T. Rowe Price Retirement Balanced Fund | 82-3533944 | | Massachusetts |
| MML Series Investment Funds: | | | |
| MML Series International Equity Fund | 46-4257056 | | Massachusetts |
| MML Series Investment Funds II: | | | |
| MML Series II 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 Real Estate Fund | 46-1604428 | | Delaware |
| Oppenheimer Global Revenue ETF | 81-5010075 | | Delaware |
| Oppenheimer Global Value Equity UCITS | None | | Ireland |
| Oppenheimer Global Unconstrained Bond Fund | 82-2693880 | | Delaware |
| Oppenhemier International Growth & Income Fund | 81-3136071 | | Delaware |
| Oppenheimer International Revenue ETF | 81-4969331 | | Delaware |
| Oppenheimer Preferred Securities & Income Fund | 82-3462739 | | 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 |

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

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

PART 1 – ORGANIZATIONAL CHART

| | <u>Federal Tax ID</u> | <u>NAIC Co Code</u> | <u>State of Domicile</u> |
|--|-----------------------|---------------------|--------------------------|
| 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 | | Delaware |
| Oppenheimer SteelPath MLP & Energy Infrastructure Fund | 82-2222426 | | Delaware |

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

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|------------|-------------------------------|-------------------|------------|--------------|-----|--|---|----------------------|----------------------------------|--|--|--|--|----------------------------------|----|
| Group Code | Group Name | NAIC Company Code | ID Number | Federal RSSD | CIK | Name of Securities Exchange if Publicly Traded (U.S. or International) | Names of Parent, Subsidiaries Or Affiliates | Domiciliary Location | Relationship to Reporting Entity | Directly Controlled by (Name of Entity/Person) | Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other) | If Control is Ownership Provide Percentage | Ultimate Controlling Entity(ies)/Person(s) | Is an SCA Filing Required? (Y/N) | * |
| .0435 | Massachusetts Mut Life Ins Co | 65935 | 04-1590850 | 3848388 | | | Massachusetts Mutual Life Insurance Company (MMLIC) | MA | RE | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0435 | CM Life Ins Co | 93432 | 06-1041383 | | | | C.M. Life Insurance Company | CT | DS | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0435 | MML Baystate Life Ins Co | 70416 | 43-0581430 | | | | MML Bay State Life Insurance Company | CT | DS | C.M. Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 06-1041383 | | | | CML Mezzanine Investor, LLC | DE | DS | C.M. Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 06-1041383 | | | | CML Mezzanine Investor L, LLC | DE | DS | C.M. Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 06-1041383 | | | | CML Mezzanine Investor III, LLC | DE | DS | C.M. Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | CML Special Situations Investor LLC | DE | DS | C.M. Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | MML Mezzanine Investor L, LLC | DE | DS | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | MML Special Situations Investor LLC | DE | DS | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 47-5322979 | | | | Timberland Forest Holding LLC | DE | DS | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 47-5322979 | | | | Timberland Forest Holding LLC | DE | DS | C.M. Life Insurance Company | Ownership | 0.000 | MMLIC | | |
| .0000 | | | 47-5322979 | | | | Timberland Forest Holding LLC | DE | DS | Wood Creek Capital Management LLC | Management | | MMLIC | | |
| .0000 | | | | | | | Lyme Adirondack Forest Company, LLC | DE | DS | Timberland Forest Holding LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 20-5305426 | | | | Lyme Adirondack Timber Sales, Inc. | NY | DS | Timberland Forest Holding LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Lyme Adirondack Timberlands I, LLC | DE | DS | Timberland Forest Holding LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Lyme Adirondack Timberlands II, LLC | DE | DS | Timberland Forest Holding LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | Berkshire Way LLC | DE | DS | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 26-4441097 | | | | WP-SC, LLC | DE | DS | Massachusetts Mutual Life Insurance Company | Ownership | 81.400 | MMLIC | | |
| .0000 | | | 26-4441097 | | | | WP-SC, LLC | DE | DS | C.M. Life Insurance Company | Ownership | 18.600 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | MSP-SC, LLC | DE | DS | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 27-1435692 | | | | Country Club Office Plaza LLC | DE | DS | Massachusetts Mutual Life Insurance Company | Ownership | 88.100 | MMLIC | | |
| .0000 | | | 27-1435692 | | | | Country Club Office Plaza LLC | DE | DS | C.M. Life Insurance Company | Ownership | 11.900 | MMLIC | | |
| .0000 | | | 56-2574604 | | | | Invicta Advisors LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | EM Opportunities LLC | DE | | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | Insurance Road LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | MassMutual Trad Private Equity LLC | DE | NIA | Insurance Road LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | MassMutual Intellectual Property LLC | DE | NIA | Insurance Road LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 27-0105644 | | | | Jefferies Finance LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 50.000 | MMLIC | | 1 |
| .0000 | | | | | | | MassMutual Mortgage Lending LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Apex Credit Partners LLC | DE | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFIN Fund III LLC | DE | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFIN Asset Management LLC | DE | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFAM GP LLC | DE | NIA | JFIN Asset Management, LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFAM GP LP | DE | NIA | JFIN Asset Management, LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFAM Loan Fund, LP | DE | NIA | JFIN Asset Management, LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFIN Revolver Holdings LLC | DE | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFIN Co-Issuer Corporation | DE | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFIN Europe GP, S.a.r.l. | LUX | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Jefferies Finance Europe, SCSp | LUX | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Jefferies Finance Business Credit LLC | DE | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|------------|------------|-------------------|------------|--------------|-----|--|---|----------------------|----------------------------------|--|--|--|--|----------------------------------|----|
| Group Code | Group Name | NAIC Company Code | ID Number | Federal RSSD | CIK | Name of Securities Exchange if Publicly Traded (U.S. or International) | Names of Parent, Subsidiaries Or Affiliates | Domiciliary Location | Relationship to Reporting Entity | Directly Controlled by (Name of Entity/Person) | Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other) | If Control is Ownership Provide Percentage | Ultimate Controlling Entity(ies)/Person(s) | Is an SCA Filing Required? (Y/N) | * |
| .0000 | | | | | | | JFIN Business Credit Fund I LLC | DE | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFIN High Yield Investments LLC | DE | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFIN LC Fund LLC | DE | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFIN Revolver CLO Holdings LLC | DE | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFIN CLO 2007 Ltd. | CYM | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFIN CLO 2012 Ltd. | CYM | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFIN CLO 2013 Ltd. | CYM | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFIN CLO 2014 Ltd. | CYM | NIA | Jefferies Finance LLC | Ownership | 70.000 | MMLIC | | |
| .0000 | | | | | | | JFIN CLO 2014 Ltd. | CYM | NIA | Apex Credit Partners LLC | Ownership | 30.000 | MMLIC | | |
| .0000 | | | | | | | JFIN CLO 2014-II Ltd. | CYM | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFIN IM CLO 2014 Ltd. | CYM | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFIN CLO 2015 Ltd. | CYM | NIA | Jefferies Finance LLC | Ownership | 44.000 | MMLIC | | |
| .0000 | | | | | | | JFIN CLO 2015 Ltd. | CYM | NIA | Apex Credit Partners LLC | Ownership | 56.000 | MMLIC | | |
| .0000 | | | | | | | Apex Credit CLO 2015-II Ltd. | CYM | NIA | Jefferies Finance LLC | Ownership | 33.000 | MMLIC | | |
| .0000 | | | | | | | Apex Credit CLO 2015-II Ltd. | CYM | NIA | Apex Credit Partners LLC | Ownership | 53.000 | MMLIC | | |
| .0000 | | | | | | | JFIN Revolver CLO 2014 Ltd. | CYM | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFIN Revolver CLO 2015 Ltd. | CYM | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFIN Revolver CLO 2015-II Ltd. | CYM | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFIN Revolver CLO 2017 Ltd. | CYM | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFIN Revolver CLO 2017-II Ltd. | CYM | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFIN Revolver CLO 2017-III Ltd. | CYM | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | JFIN Revolver CLO 2017-III Ltd. | CYM | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Apex Credit CLO 2016 Ltd. | CYM | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Apex Credit CLO 2017 Ltd. | CYM | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Apex Credit CLO 2017-II Ltd. | CYM | NIA | Jefferies Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | MassMutual Retirement Services, LLC | DE | DS | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | MM Copper Hill Road LLC | DE | DS | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-3356880 | | | | MML Distributors LLC | MA | DS | Massachusetts Mutual Life Insurance Company | Ownership | 99.000 | MMLIC | | |
| .0000 | | | 04-3356880 | | | | MML Distributors LLC | MA | DS | MassMutual Holding LLC | Ownership | 1.000 | MMLIC | | |
| .0000 | | | | | | | MML Investment Advisers, LLC | DE | DS | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | MML Mezzanine Investor, LLC | DE | DS | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 46-3238013 | | | | MML Strategic Distributors, LLC | DE | DS | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 06-1563535 | 2881445 | | | The MassMutual Trust Company, FSB | CT | DS | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | Y |
| .0000 | | | 26-0073611 | | | | MassMutual Asset Finance LLC | DE | DS | Massachusetts Mutual Life Insurance Company | Ownership | 99.600 | MMLIC | | |
| .0000 | | | 26-0073611 | | | | MassMutual Asset Finance LLC | DE | DS | C.M. Life Insurance Company | Ownership | 0.400 | MMLIC | | |
| .0000 | | | 27-1379258 | | | | MMAF Equipment Finance LLC 2009-A | DE | DS | MassMutual Asset Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 45-2589019 | | | | MMAF Equipment Finance LLC 2011-A | DE | DS | MassMutual Asset Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | MML Private Placement Investment Company I, LLC | DE | DS | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | MML Private Equity Fund Investor LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | MM Private Equity Intercontinental LLC | DE | NIA | MML Private Equity Fund Investor LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 45-2738137 | | | | Pioneers Gate LLC | DE | DS | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-2854319 | 2392316 | | | MassMutual Holding LLC | DE | DS | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | Y |
| .0000 | | | 06-1597528 | | | | MassMutual Assignment Company | NC | DS | MassMutual Holding LLC | Ownership | 100.000 | MMLIC | | |

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|------------|------------|-------------------|------------|--------------|-----|--|---|----------------------|----------------------------------|---|--|--|--|----------------------------------|----|
| Group Code | Group Name | NAIC Company Code | ID Number | Federal RSSD | CIK | Name of Securities Exchange if Publicly Traded (U.S. or International) | Names of Parent, Subsidiaries Or Affiliates | Domiciliary Location | Relationship to Reporting Entity | Directly Controlled by (Name of Entity/Person) | Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other) | If Control is Ownership Provide Percentage | Ultimate Controlling Entity(ies)/Person(s) | Is an SCA Filing Required? (Y/N) | * |
| .0000 | | | 37-1732913 | | | | Fern Street LLC | DE | DS | MassMutual Holding LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 62-0951563 | 1160004 | | | First Mercantile Trust Company | TN | DS | MassMutual Holding LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 46-2252944 | | | | Haven Life Insurance Agency, LLC | DE | DS | MassMutual Holding LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | MassMutual Capital Partners LLC | DE | DS | MassMutual Holding LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 47-1296410 | | | | MassMutual Ventures LLC | DE | DS | MassMutual Holding LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | MM Rothesay Holdco US LLC | DE | DS | MassMutual Holding LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 47-1466022 | | | | LifeScore Labs, LLC | MA | DS | MassMutual Holding LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | MML Investors Services, LLC | MA | DS | MassMutual Holding LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | MML Insurance Agency, LLC | MA | DS | MML Investors Services, LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 41-2011634 | | | | MMLISI Financial Alliances, LLC | DE | DS | MML Investors Services, LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 45-4000072 | | | | MM Asset Management Holding LLC | DE | DS | MassMutual Holding LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 51-0504477 | | | | Barings LLC | DE | DS | MassMutual Asset Management Holding LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0524271 | | | | Baring Asset Management (Asia) Holdings Limited | HKG | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0457465 | | | | Baring International Fund Managers (Bermuda) Limited | BMU | DS | Baring Asset Management (Asia) Holdings Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0457463 | | | | Baring Asset Management (Asia) Limited | HKG | DS | Baring Asset Management (Asia) Holdings Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Baring Asset Management Korea Limited | KOR | DS | Baring Asset Management (Asia) Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0457707 | | | | Baring SICE (Taiwan) Limited | TWN | DS | Baring Asset Management (Asia) Holdings Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0236449 | | | | Barings Japan Limited | JPN | DS | Baring Asset Management (Asia) Holdings Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0457456 | | | | Baring Asset Management (Australia) Pty Limited | AUS | DS | Baring Asset Management (Asia) Holdings Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Barings Investment Advisors (Hong Kong) Limited | HKG | DS | Baring Asset Management (Asia) Holdings Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Barings Australia Holding Company Pty Ltd | AUS | DS | Baring Asset Management (Asia) Holdings Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0457456 | | | | Barings Australia Pty Ltd | AUS | DS | Baring Australia Holding Company Pty Ltd | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 80-0875475 | | | | Barings Finance LLC | DE | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | BCF Europe Funding Limited | IRL | DS | Barings Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | BCF Senior Funding I LLC | DE | DS | Barings Finance LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-3238351 | | | | Barings Securities LLC | DE | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0437588 | | | | Barings Guernsey Limited | GGY | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Barings Europe Limited | GBR | DS | Barings Guernsey Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Barings Real Estate UK Holdings Limited | DE | DS | Barings Europe Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | BREAE AIFM LLP | GBR | DS | Barings Real Estate UK Holdings Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0654401 | | | | Barings Real Estate Advisers (Continental Europe) Limited | GBR | DS | Barings Real Estate UK Holdings Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0654388 | | | | Barings Real Estate Advisers Europe LLP | GBR | DS | Barings Real Estate UK Holdings Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Barings Real Estate Advisers Europe Finance LLP | GBR | DS | Barings Real Estate UK Holdings Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0654412 | | | | Barings Real Estate Advisers GmbH | DEU | DS | Barings Real Estate UK Holdings Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-1194368 | | | | Baring Asset Management Limited | GBR | DS | MassMutual Holdings (Bermuda) Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0241935 | | | | Barings Global Advisors Limited | GBR | DS | Baring Asset Management Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-1012393 | | | | BCGSS 2 GP LLP | GBR | DS | Baring Asset Management Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Barings European Direct Lending 1 GP LLP | GBR | DS | Baring Asset Management Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0457328 | | | | Baring International Investment Limited | GBR | DS | Baring Asset Management Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Baring International Investment Management Holdings | GBR | DS | Baring Asset Management Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0457587 | | | | Baring International Investment Management Holdings | GBR | DS | Baring International Investment Management Holdings | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0457576 | | | | Baring Asset Management UK Holdings Limited | GBR | DS | Baring International Investment Management Holdings | Ownership | 100.000 | MMLIC | | |

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|------------|------------|-------------------|------------|--------------|-----|--|--|----------------------|----------------------------------|--|--|--|--|----------------------------------|----|
| Group Code | Group Name | NAIC Company Code | ID Number | Federal RSSD | CIK | Name of Securities Exchange if Publicly Traded (U.S. or International) | Names of Parent, Subsidiaries Or Affiliates | Domiciliary Location | Relationship to Reporting Entity | Directly Controlled by (Name of Entity/Person) | Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other) | If Control is Ownership Provide Percentage | Ultimate Controlling Entity(ies)/Person(s) | Is an SCA Filing Required? (Y/N) | * |
| .0000 | | | 98-0465031 | | | | Baring Asset Management GmbH | DEU | DS | Baring Asset Management UK Holdings Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0524272 | | | | Baring International Fund Managers (Ireland) Limited | IRL | DS | Baring Asset Management UK Holdings Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Baring Asset Management Switzerland Sarl | CHE | DS | Baring Asset Management UK Holdings Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0497550 | | | | Baring France SAS | FRA | DS | Baring Asset Management UK Holdings Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0457586 | | | | Baring Fund Managers Limited | GBR | DS | Baring Asset Management Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0457574 | | | | Baring Pension Trustees Limited | GBR | DS | Baring Asset Management Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0457578 | | | | Baring Investment Services Limited | GBR | DS | Baring Asset Management Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Barings GPC GP S.à. r.l | LUX | DS | Baring Asset Management Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Barings Investment Fund (LUX) GP S.à. r.l | LUX | DS | Baring Asset Management Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Almack Mezzanine GP III Limited | GBR | DS | Baring Asset Management Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Almack Holding Partnership GP Limited | GBR | DS | Baring Asset Management Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Almack Mezzanine Fund Limited | GBR | DS | Baring Asset Management Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Almack Mezzanine Fund II Limited | GBR | DS | Baring Asset Management Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0432153 | | | | Barings (U.K.) Limited | GBR | DS | Barings Guernsey Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Barings Multifamily Capital Holdings LLC | DE | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Barings Multifamily Capital LLC | WI | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Barings Multifamily Capital Corporation | DE | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-3238351 | 3456895 | | | Barings Real Estate Advisers Inc. | CA | DS | Barings Real Estate Advisers LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | MassMutual Baring Holding LLC | DE | DS | MassMutual Asset Management Holding LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0241935 | 2363071 | | | Baring North America LLC | MA | DS | MassMutual Baring Holding LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | MassMutual Holdings (Bermuda) Limited | BMU | DS | MassMutual Baring Holding LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Agspring Holdco, LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 15.400 | MMLIC | | |
| .0000 | | | 81-2244465 | | | | Chassis Acquisition Holding LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 30.000 | MMLIC | | |
| .0000 | | | 81-2244465 | | | | Chassis Acquisition Holding LLC | DE | NIA | Barings LLC | Influence | | MMLIC | | |
| .0000 | | | 81-4258759 | | | | CRA Aircraft Holding LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 40.000 | MMLIC | | |
| .0000 | | | 81-4258759 | | | | CRA Aircraft Holding LLC | DE | NIA | Barings LLC | Influence | | MMLIC | | |
| .0000 | | | 46-2344300 | | | | Intermodal Holdings II LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 18.000 | MMLIC | | |
| .0000 | | | 46-2344300 | | | | Intermodal Holdings II LLC | DE | NIA | Barings LLC | Influence | | MMLIC | | |
| .0000 | | | 47-3055009 | | | | Milestone Acquisition Holding, LLC. | DE | NIA | MassMutual Holding LLC | Ownership/Influence | 18.300 | MMLIC | | |
| .0000 | | | | | | | Milestone Acquisition Holding, LLC. | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.000 | MMLIC | | |
| .0000 | | | 47-3055009 | | | | Milestone Acquisition Holding, LLC. | DE | NIA | Barings LLC | Influence | | MMLIC | | |
| .0000 | | | 46-5460309 | | | | Red Lake Ventures, LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 15.800 | MMLIC | | |
| .0000 | | | 46-5460309 | | | | Red Lake Ventures, LLC | DE | NIA | Barings LLC | Influence | | MMLIC | | |
| .0000 | | | 81-4065378 | | | | Remington L & W Holdings LLC | CT | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 66.300 | MMLIC | | |
| .0000 | | | 81-4065378 | | | | Remington L & W Holdings LLC | CT | NIA | Barings LLC | Influence | | MMLIC | | |
| .0000 | | | 46-3123110 | | | | Sweet Tree Holdings 1, LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 25.600 | MMLIC | | |
| .0000 | | | 46-3123110 | | | | Sweet Tree Holdings 1, LLC | DE | NIA | Barings LLC | Influence | | MMLIC | | |
| .0000 | | | | | | | Tamiami Citrus, LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 15.700 | MMLIC | | |
| .0000 | | | | | | | Teaktree Acquisition, LLC | DE | NIA | MassMutual Holding LLC | Ownership/Influence | 14.700 | MMLIC | | |
| .0000 | | | | | | | Teaktree Acquisition, LLC | DE | NIA | Barings LLC | Influence | | MMLIC | | |

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|------------|------------|-------------------|------------|--------------|-----|--|--|----------------------|----------------------------------|--|--|--|--|----------------------------------|----|
| Group Code | Group Name | NAIC Company Code | ID Number | Federal RSSD | CIK | Name of Securities Exchange if Publicly Traded (U.S. or International) | Names of Parent, Subsidiaries Or Affiliates | Domiciliary Location | Relationship to Reporting Entity | Directly Controlled by (Name of Entity/Person) | Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other) | If Control is Ownership Provide Percentage | Ultimate Controlling Entity(ies)/Person(s) | Is an SCA Filing Required? (Y/N) | * |
| .0000 | | | | | | | U.S. Buyer Broadcasting, LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 12.700 | MMLIC | | |
| .0000 | | | 46-1500495 | | | | U.S. WIG Holdings, LP | DE | NIA | MassMutual Holding LLC | Ownership/Influence | 11.700 | MMLIC | | |
| .0000 | | | 46-1500495 | | | | U.S. WIG Holdings, LP | DE | NIA | Barings LLC | Influence | | MMLIC | | |
| .0000 | | | 46-0687392 | | | | US Pharmaceutical Holdings I, LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Management | 32.600 | MMLIC | | |
| .0000 | | | 20-2970495 | | | | US Pharmaceutical Holdings II, LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 32.600 | MMLIC | | |
| .0000 | | | 20-2970495 | | | | US Pharmaceutical Holdings II, LLC | DE | NIA | Barings LLC | Influence | | MMLIC | | |
| .0000 | | | | | | | Solar Acquisition Holding, LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 39.200 | MMLIC | | |
| .0000 | | | | | | | Solar Acquisition Holding, LLC | DE | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | | | | | Validus Pharmaceuticals LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 100.000 | MMLIC | | |
| .0000 | | | | | | | VGS Acquisition Holding, LLC | DE | NIA | MassMutual Holding LLC | Ownership/Influence | 33.300 | MMLIC | | |
| .0000 | | | | | | | VGS Acquisition Holding, LLC | DE | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | | | | | Baring Asset-Based Income Fund (US) GP, LLC | DE | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | Babson Capital Floating Rate Income Fund Management, LLC | DE | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Babson Global Loan Feeder Management, LLC | DE | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Barings CLO Investment Partners GP, LLC | DE | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Barings Direct Lending GP Ltd. | CYM | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Barings Global Energy Infrastructure Advisors, LLC | DE | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Barings North American Private Loan Fund Management, LLC | DE | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Barings Global Real Assets Fund GP, LLC | DE | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Barings TERO Management LLC | DE | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-0536233 | | | | Benton Street Advisors, Inc. | CYM | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | Great Lakes III GP, LLC | DE | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Lake Jackson LLC | DE | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | Loan Strategies Management LLC | DE | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | Mezzco LLC | DE | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 02-0767001 | | | | Mezzco II LLC | DE | DS | Barings LLC | Ownership | 98.400 | MMLIC | | |
| .0000 | | | 41-2280126 | | | | Mezzco III LLC | DE | DS | Barings LLC | Ownership | 99.300 | MMLIC | | |
| .0000 | | | 80-0920285 | | | | Mezzco IV LLC | DE | DS | Barings LLC | Ownership | 99.300 | MMLIC | | |
| .0000 | | | 90-0666326 | | | | Mezzco Australia LLC | DE | DS | Barings LLC | Ownership | 72.000 | MMLIC | | |
| .0000 | | | | | | | Mezzco Australia II LLC | DE | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Somerset Special Opportunities Management LLC | DE | DS | Barings LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | Oppenheimer Acquisition Corp. | DE | DS | MassMutual Asset Management Holding LLC | Ownership | 96.900 | MMLIC | | |
| .0000 | | | 84-1149206 | 2897101 | | | OppenheimerFunds, Inc. | CO | DS | Oppenheimer Acquisition Corp. | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 13-2527171 | 2679183 | | | OppenheimerFunds Distributor, Inc. | NY | DS | OppenheimerFunds, Inc. | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 13-2953455 | | | | Oppenheimer Real Asset Management, Inc. | DE | DS | OppenheimerFunds, Inc. | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 84-1106295 | | | | OFI Global Institutional, Inc. | NY | DS | OppenheimerFunds, Inc. | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 13-4160541 | 3458125 | | | HarbourView Asset Management Corporation | NY | DS | OFI Institutional Asset Management, Inc. | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 22-2697140 | | | | OC Private Capital, LLC | DE | DS | OFI Institutional Asset Management, Inc. | Ownership | 51.000 | MMLIC | | |
| .0000 | | | | | | | OFI Global Trust Company | NY | DS | OFI Institutional Asset Management, Inc. | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | OFI International, Ltd. | GBR | DS | OFI Institutional Asset Management, Inc. | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | SNW Asset Management Corporation | DE | DS | OFI Institutional Asset Management, Inc. | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 60-2233720 | | | | Seattle Northwest Asset Management LLC | WA | DS | OFI Institutional Asset Management, Inc. | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 25-1951632 | | | | Trinity Investment Management Corporation | PA | DS | OFI Institutional Asset Management, Inc. | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 84-1128397 | | | | OFI SteelPath, Inc. | DE | DS | OppenheimerFunds, Inc. | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 84-1066811 | | | | Shareholder Services, Inc. | CO | DS | OppenheimerFunds, Inc. | Ownership | 100.000 | MMLIC | | |

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|------------|------------|-------------------|------------|--------------|-----|--|--|----------------------|----------------------------------|--|--|--|--|----------------------------------|----|
| Group Code | Group Name | NAIC Company Code | ID Number | Federal RSSD | CIK | Name of Securities Exchange if Publicly Traded (U.S. or International) | Names of Parent, Subsidiaries Or Affiliates | Domiciliary Location | Relationship to Reporting Entity | Directly Controlled by (Name of Entity/Person) | Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other) | If Control is Ownership Provide Percentage | Ultimate Controlling Entity(ies)/Person(s) | Is an SCA Filing Required? (Y/N) | * |
| .0000 | | | | | | | OFI Advisors , LLC | DE | DS | OppenheimerFunds, Inc. | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Index Management Solutions, LLC | PA | DS | OppenheimerFunds, Inc. | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 84-0765063 | | | | OFI Global Asset Management, Inc. | DE | DS | OppenheimerFunds, Inc. | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 91-2036414 | | | | OFI Private Investments Inc. | NY | DS | OppenheimerFunds, Inc. | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 62-1210532 | | | | Tremont Group Holdings, LLC | NY | DS | Oppenheimer Acquisition Corp. | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 06-1121864 | | | | Tremont Partners, LLC | CT | DS | Tremont Group Holdings, Inc. | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 20-8215352 | | | | Tremont GP, LLC | DE | DS | Tremont Group Holdings, Inc. | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 90-0874510 | | | | Settlement Agent, LLC | DE | DS | Tremont GP | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Tremont (Bermuda) Limited | BMU | DS | Tremont Group Holdings, Inc. | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-3313782 | | | | MassMutual International LLC | DE | DS | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | Y | |
| .0000 | | | | | | | MassMutual Asia Limited | HKG | DS | MassMutual International LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | MassMutual Asia Investors Ltd. | HKG | DS | MassMutual Asia Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | MassMutual Guardian Limited | HKG | DS | MassMutual Asia Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | MassMutual Insurance Consultants Limited | HKG | DS | MassMutual Asia Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | MassMutual Services Limited | HKG | DS | MassMutual Asia Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | MassMutual Trustees Limited | HKG | DS | MassMutual Asia Limited | Ownership | 80.000 | MMLIC | | |
| .0000 | | | 98-0610331 | | | | Protective Capital (International) Limited | HKG | DS | MassMutual Asia Limited | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 98-1033127 | | | | MassMutual Internacional (Chile) SpA | CHL | DS | MassMutual International LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | MassMutual Life Insurance Company | JPN | DS | MassMutual International LLC | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-2443240 | | | | MML Management Corporation | MA | DS | Company | Ownership | 100.000 | MMLIC | Y | |
| .0000 | | | 04-3548444 | | | | MassMutual International Holding MSC, Inc. | MA | DS | MML Management Corporation | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-3341767 | | | | MassMutual Holding MSC, Inc. | MA | DS | MML Management Corporation | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | MML Mezzanine Investor II, LLC | DE | DS | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | MML Mezzanine Investor III, LLC | DE | DS | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 27-3576835 | | | | MassMutual External Benefits Group LLC | DE | DS | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 20-8730751 | | | | Cornerstone Global REIT Corporation | DE | DS | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | 100 w. 3rd Street LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 82-2432216 | | | | 300 South Tryon Hotel LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | 300 South Tryon LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 20-3887968 | | | | 54 West Capital LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Almack Mezzanine Fund I LP | GBR | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 41.400 | MMLIC | | |
| .0000 | | | | | | | Almack Mezzanine Fund I LP | GBR | NIA | C.M. Life Insurance Company | Ownership | 4.600 | MMLIC | | |
| .0000 | | | | | | | Almack Mezzanine Fund II Unleveraged LP | GBR | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 72.900 | MMLIC | | |
| .0000 | | | | | | | Almack Mezzanine Fund III LP | GBR | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 34.200 | MMLIC | | |
| .0000 | | | | | | | Almack Mezzanine Fund III LP | GBR | NIA | C.M. Life Insurance Company | Ownership | 3.800 | MMLIC | | |
| .0000 | | | | | | | Almack Mezzanine Fund III LP | GBR | NIA | Barings (U.K.) Limited | Management | | MMLIC | | |
| .0000 | | | 36-4868350 | | | | Barings Asset-Based Income Fund (US) LP | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 0.000 | MMLIC | | |
| .0000 | | | 36-4868350 | | | | Barings Asset-Based Income Fund (US) LP | DE | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | | | | | Barings Emerging Markets Corporate Bond Fund | IRL | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 95.900 | MMLIC | | |

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|------------|------------|-------------------|------------|--------------|-----|--|---|----------------------|----------------------------------|--|--|--|--|----------------------------------|----|
| Group Code | Group Name | NAIC Company Code | ID Number | Federal RSSD | CIK | Name of Securities Exchange if Publicly Traded (U.S. or International) | Names of Parent, Subsidiaries Or Affiliates | Domiciliary Location | Relationship to Reporting Entity | Directly Controlled by (Name of Entity/Person) | Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other) | If Control is Ownership Provide Percentage | Ultimate Controlling Entity(ies)/Person(s) | Is an SCA Filing Required? (Y/N) | * |
| .0000 | | | | | | | Barings Emerging Markets Corporate Bond Fund | .IRL | NIA | Barings LLC | Management | | | | |
| .0000 | | | | | | | Barings Global Special Situations Credit Fund 1 | .IRL | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 96.100 | MMLIC | | |
| .0000 | | | | | | | Barings Global Special Situations Credit Fund 1 | .IRL | NIA | Barings LLC | Management | | | | |
| .0000 | | | 98-1206017 | | | | Babson Capital Global Special Situation Credit Fund 2 | .DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 20.600 | MMLIC | | |
| .0000 | | | 98-1206017 | | | | Babson Capital Global Special Situation Credit Fund 2 | .DE | NIA | C.M. Life Insurance Company | Ownership | 1.300 | MMLIC | | |
| .0000 | | | 98-1206017 | | | | Babson Capital Global Special Situation Credit Fund 2 | .DE | NIA | Barings LLC | Management | | | | |
| .0000 | | | 37-1506417 | | | | Babson Capital Loan Strategies Fund, L.P. | .DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 78.900 | MMLIC | | |
| .0000 | | | 37-1506417 | | | | Babson Capital Loan Strategies Fund, L.P. | .DE | NIA | C.M. Life Insurance Company | Ownership | 3.800 | MMLIC | | |
| .0000 | | | 37-1506417 | | | | Babson Capital Loan Strategies Fund, L.P. | .DE | NIA | Barings LLC | Management | | | | |
| .0000 | | | | | | | Barings US High Yield Bond Fund | .IRL | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 49.100 | MMLIC | | |
| .0000 | | | | | | | Barings US High Yield Bond Fund | .IRL | NIA | C.M. Life Insurance Company | Ownership | 0.000 | MMLIC | | |
| .0000 | | | | | | | Barings US High Yield Bond Fund | .IRL | NIA | Barings LLC | Management | | | | |
| .0000 | | | 98-1128827 | | | | Babson CLO Ltd. 2013-I | .CYM | NIA | Barings LLC | Influence | | | | 3 |
| .0000 | | | 98-1128827 | | | | Babson CLO Ltd. 2013-II | .CYM | NIA | Barings LLC | Influence | | | | 4 |
| .0000 | | | 98-1128827 | | | | Babson CLO Ltd. 2014-I | .CYM | NIA | Barings LLC | Influence | | | | 2 |
| .0000 | | | 98-1128827 | | | | Babson CLO Ltd. 2014-II | .CYM | NIA | Barings LLC | Influence | | | | 5 |
| .0000 | | | 98-1128827 | | | | Babson CLO Ltd. 2014-III | .CYM | NIA | Barings LLC | Influence | | | | 1 |
| .0000 | | | 98-1128827 | | | | Babson CLO Ltd. 2015-I | .CYM | NIA | Barings LLC | Influence | | | | 6 |
| .0000 | | | 98-1128827 | | | | Babson CLO Ltd. 2015-II | .CYM | NIA | Barings LLC | Influence | | | | 7 |
| .0000 | | | 98-1128827 | | | | Babson CLO Ltd. 2016-I | .CYM | NIA | Barings LLC | Influence | | | | 1 |
| .0000 | | | 98-1128827 | | | | Babson CLO Ltd. 2016-II | .CYM | NIA | Barings LLC | Influence | | | | 2 |
| .0000 | | | 98-1128827 | | | | Babson CLO Ltd. 2017-I | .CYM | NIA | Barings LLC | Influence | | | | 3 |
| .0000 | | | 98-1128827 | | | | Babson Euro CLO 2014-I BV | .NLD | NIA | Barings LLC | Influence | | | | 4 |
| .0000 | | | 98-1128827 | | | | Babson Euro CLO 2014-II BV | .NLD | NIA | Barings LLC | Influence | | | | 5 |
| .0000 | | | 98-1128827 | | | | Babson Euro CLO 2015-I BV | .NLD | NIA | Barings LLC | Influence | | | | 6 |
| .0000 | | | 98-1128827 | | | | Babson Euro CLO 2016-I BV | .NLD | NIA | Barings LLC | Influence | | | | 7 |
| .0000 | | | 81-0841854 | | | | Barings CLO Investment Partners LP | .DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 99.500 | MMLIC | | |
| .0000 | | | 81-0841854 | | | | Barings CLO Investment Partners LP | .DE | NIA | Barings LLC | Management | | | | |
| .0000 | | | | | | | Barings Real Estate European Value Add I SCSp | .GBR | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 90.000 | MMLIC | | |
| .0000 | | | | | | | Barings Real Estate European Value Add I SCSp | .GBR | NIA | C.M. Life Insurance Company | Ownership | 10.000 | MMLIC | | |
| .0000 | | | | | | | Barings Real Estate European Value Add I SCSp | .GBR | NIA | Barings LLC | Management | | | | |
| .0000 | | | 11-3789446 | | | | Baring Focused EAFE Equity Fund | .DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 49.700 | MMLIC | | |
| .0000 | | | 11-3789446 | | | | Baring Focused EAFE Equity Fund | .DE | NIA | Baring Asset Management Limited | Management | | | | |
| .0000 | | | 98-1332384 | | | | Barings Global Energy Infrastructure Fund I LP | .CYM | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 96.800 | MMLIC | | |
| .0000 | | | 98-1332384 | | | | Barings Global Energy Infrastructure Fund I LP | .CYM | NIA | Baring Asset Management Limited | Management | | | | |
| .0000 | | | | | | | Barings Global Private Loan Fund | .LUX | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 15.700 | MMLIC | | |
| .0000 | | | | | | | Barings Global Private Loan Fund | .LUX | NIA | Barings LLC | Management | | | | |

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|------------|------------|-------------------|------------|--------------|-----|--|---|----------------------|----------------------------------|--|--|--|--|----------------------------------|----|
| Group Code | Group Name | NAIC Company Code | ID Number | Federal RSSD | CIK | Name of Securities Exchange if Publicly Traded (U.S. or International) | Names of Parent, Subsidiaries Or Affiliates | Domiciliary Location | Relationship to Reporting Entity | Directly Controlled by (Name of Entity/Person) | Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other) | If Control is Ownership Provide Percentage | Ultimate Controlling Entity(ies)/Person(s) | Is an SCA Filing Required? (Y/N) | * |
| .0000 | | | 82-3867745 | | | | Barings Global Real Assets Fund LP | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 55.000 | MMLIC | | |
| .0000 | | | 82-3867745 | | | | Barings Global Real Assets Fund LP | DE | NIA | C.M. Life Insurance Company | Ownership | 15.000 | MMLIC | | |
| .0000 | | | 82-3867745 | | | | Barings Global Real Assets Fund LP | DE | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | | | | | Barings Global Special Situations Credit Fund 3 | IRL | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 52.100 | MMLIC | | |
| .0000 | | | | | | | Barings Global Special Situations Credit Fund 3 | IRL | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | | | | | Barings Middle Market CLO 2017-I Ltd & LLC | CYM | NIA | Barings LLC | Influence | | MMLIC | | |
| .0000 | | | 38-4010344 | | | | Barings North American Private Loan Fund LP | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 49.300 | MMLIC | | |
| .0000 | | | 38-4010344 | | | | Barings North American Private Loan Fund LP | DE | NIA | Baring Asset Management Limited | Management | | MMLIC | | |
| .0000 | | | 98-1332384 | | | | Barings RE Credit Strategies VII LP | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 33.100 | MMLIC | | |
| .0000 | | | 98-1332384 | | | | Barings RE Credit Strategies VII LP | DE | NIA | Baring Asset Management Limited | Management | | MMLIC | | |
| .0000 | | | 26-4142796 | | | | Baring International Small Cap Equity Fund | DE | NIA | Company | Ownership/Influence | 58.000 | MMLIC | | |
| .0000 | | | 26-4142796 | | | | Baring International Small Cap Equity Fund | DE | NIA | Baring Asset Management Limited | Management | | MMLIC | | |
| .0000 | | | | | | | Braemar Energy Ventures I, L.P. | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 87.800 | MMLIC | | |
| .0000 | | | | | | | Braemar Energy Ventures I, L.P. | DE | NIA | C.M. Life Insurance Company | Ownership | 1.300 | MMLIC | | |
| .0000 | | | | | | | Braemar Energy Ventures I, L.P. | DE | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | | | | | Barings European Core Property Fund SCSp | LUX | NIA | MassMutual Holding LLC | Ownership/Influence | 21.800 | MMLIC | | |
| .0000 | | | | | | | Barings European Core Property Fund SCSp | LUX | NIA | C.M. Life Insurance Company | Ownership | 1.400 | MMLIC | | |
| .0000 | | | | | | | Barings European Core Property Fund SCSp | LUX | NIA | Barings Real Estate Advisers LLC | Management | | MMLIC | | |
| .0000 | | | 38-4059932 | | | | Benchmark 2018-B2 Mortgage Trust | NY | NIA | Barings LLC | Influence | | MMLIC | | |
| .0000 | | | 27-1701622 | | | | Cornerstone Core Mortgage Venture I LP | DE | NIA | MassMutual Holding LLC | Ownership/Influence | 50.000 | MMLIC | | |
| .0000 | | | 27-1701622 | | | | Cornerstone Core Mortgage Venture I LP | DE | NIA | Barings Real Estate Advisers LLC | Management | | MMLIC | | |
| .0000 | | | 45-3751572 | | | | Cornerstone Enhanced Mortgage Fund I LP | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 14.400 | MMLIC | | |
| .0000 | | | 45-3751572 | | | | Cornerstone Enhanced Mortgage Fund I LP | DE | NIA | Barings Real Estate Advisers LLC | Management | | MMLIC | | |
| .0000 | | | 20-8730751 | | | | Cornerstone Global Real Estate LP | DE | NIA | Company | Ownership/Influence | 82.300 | MMLIC | | |
| .0000 | | | 20-8730751 | | | | Cornerstone Global Real Estate LP | DE | NIA | C.M. Life Insurance Company | Ownership | 7.600 | MMLIC | | |
| .0000 | | | 20-8730751 | | | | Cornerstone Global Real Estate LP | DE | NIA | Barings Real Estate Advisers LLC | Management | | MMLIC | | |
| .0000 | | | 36-4770946 | | | | Cornerstone High Yield Venture LP | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 49.700 | MMLIC | | |
| .0000 | | | 36-4770946 | | | | Cornerstone High Yield Venture LP | DE | NIA | Barings Real Estate Advisers LLC | Management | | MMLIC | | |
| .0000 | | | 20-5578089 | | | | Barings Core Property Fund LP | DE | NIA | MassMutual Holding LLC | Ownership/Influence | 11.600 | MMLIC | | |
| .0000 | | | 20-5578089 | | | | Barings Core Property Fund LP | DE | NIA | Barings Real Estate Advisers LLC | Management | | MMLIC | | |
| .0000 | | | 46-5432619 | | | | Cornerstone Real Estate Fund X LP | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 24.900 | MMLIC | | |
| .0000 | | | 46-5432619 | | | | Cornerstone Real Estate Fund X LP | DE | NIA | C.M. Life Insurance Company | Ownership | 2.800 | MMLIC | | |
| .0000 | | | 46-5432619 | | | | Cornerstone Real Estate Fund X LP | DE | NIA | Barings Real Estate Advisers LLC | Management | | MMLIC | | |
| .0000 | | | 46-5437441 | | | | Barings/LAZ Parking Fund LP | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 99.900 | MMLIC | | |
| .0000 | | | 46-5437441 | | | | Barings/LAZ Parking Fund LP | DE | NIA | Barings Real Estate Advisers LLC | Management | | MMLIC | | |
| .0000 | | | | 4007502 | | | Duchess VII CLO B.V. | GBR | NIA | Barings LLC | Influence | | MMLIC | | |
| .0000 | | | 20-3887968 | | | | E-Wise Land Venture LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 80-0691253 | | | | Gateway Mezzanine Partners I, L.P. | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 71.600 | MMLIC | | |
| .0000 | | | 80-0691253 | | | | Gateway Mezzanine Partners I, L.P. | DE | NIA | C.M. Life Insurance Company | Ownership | 7.700 | MMLIC | | |

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|------------|------------|-------------------|------------|--------------|-----|--|---|----------------------|----------------------------------|--|--|--|--|----------------------------------|----|
| Group Code | Group Name | NAIC Company Code | ID Number | Federal RSSD | CIK | Name of Securities Exchange if Publicly Traded (U.S. or International) | Names of Parent, Subsidiaries Or Affiliates | Domiciliary Location | Relationship to Reporting Entity | Directly Controlled by (Name of Entity/Person) | Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other) | If Control is Ownership Provide Percentage | Ultimate Controlling Entity(ies)/Person(s) | Is an SCA Filing Required? (Y/N) | * |
| .0000 | | | 90-0991195 | | | | Gateway Mezzanine Partners II LP | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 42.400 | MMLIC | | |
| .0000 | | | 90-0991195 | | | | Gateway Mezzanine Partners II LP | DE | NIA | C.M. Life Insurance Company | Ownership | 5.500 | MMLIC | | |
| .0000 | | | 90-0991195 | | | | Gateway Mezzanine Partners II LP | DE | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | 37-1708623 | | | | Great Lakes III, L.P. | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 35.700 | MMLIC | | |
| .0000 | | | 37-1708623 | | | | Great Lakes III, L.P. | DE | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | 04-1590850 | | | | Gillem GA Industrial LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 38-4041011 | | | | JPMCC Commercial Mortgage Securities Trust 2017-JP7 | NY | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | 38-4032059 | | | | JPMDB Commercial Mortgage Securities Trust 2017-C5 | NY | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | 20-3887968 | | | | Kazwell Realty Partners LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 82-1512591 | | | | KKR-MM Vector LP | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 100.000 | MMLIC | | |
| .0000 | | | 46-4255307 | | | | Marco Hotel LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 81-3000420 | | | | MM Debt Participations LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 100.000 | MMLIC | | |
| .0000 | | | 81-3000420 | | | | MM Debt Participations LLC | DE | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | 20-3887968 | | | | Oakley Grove Development LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 20-3887968 | | | | Old Pasco Properties LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 82-4411267 | | | | RB Apartments LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 75-2901061 | | | | Reston Arboretum LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 30-0713071 | | | | Riva Portland LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Rockall CLO B.V. | GBR | NIA | Barings LLC | Influence | | MMLIC | | |
| .0000 | | | 54-2055778 | | | | Rockville Town Center LLC | VA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 04-1590850 | | | | Sedona TFMP Land LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 20-8856877 | | | | Somerset Special Opportunities Fund L.P. | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 58.500 | MMLIC | | |
| .0000 | | | 20-8856877 | | | | Somerset Special Opportunities Fund L.P. | DE | NIA | C.M. Life Insurance Company | Ownership | 2.900 | MMLIC | | |
| .0000 | | | 20-3887968 | | | | South Pasco Properties LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 30-0336246 | | | | Tower Square Capital Partners II, L.P. | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 22.400 | MMLIC | | |
| .0000 | | | 30-0336246 | | | | Tower Square Capital Partners II, L.P. | DE | NIA | C.M. Life Insurance Company | Ownership | 3.900 | MMLIC | | |
| .0000 | | | 32-0160190 | | | | Tower Square Capital Partners II-A, L.P. | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 85.000 | MMLIC | | |
| .0000 | | | 32-0160190 | | | | Tower Square Capital Partners II-A, L.P. | DE | NIA | C.M. Life Insurance Company | Ownership | 15.000 | MMLIC | | |
| .0000 | | | 32-0160190 | | | | Tower Square Capital Partners II-A, L.P. | DE | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | 41-2280127 | | | | Tower Square Capital Partners III, L.P. | DE | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | 41-2280127 | | | | Tower Square Capital Partners III, L.P. | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 5.100 | MMLIC | | |
| .0000 | | | 41-2280127 | | | | Tower Square Capital Partners III, L.P. | DE | NIA | MassMutual Holding LLC | Ownership/Influence | 17.800 | MMLIC | | |

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|------------|------------|-------------------|------------|--------------|-----|--|---|----------------------|----------------------------------|--|--|--|--|----------------------------------|----|
| Group Code | Group Name | NAIC Company Code | ID Number | Federal RSSD | CIK | Name of Securities Exchange if Publicly Traded (U.S. or International) | Names of Parent, Subsidiaries Or Affiliates | Domiciliary Location | Relationship to Reporting Entity | Directly Controlled by (Name of Entity/Person) | Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other) | If Control is Ownership Provide Percentage | Ultimate Controlling Entity(ies)/Person(s) | Is an SCA Filing Required? (Y/N) | * |
| .0000 | | | 41-2280129 | | | | Tower Square Capital Partners IIIA, L.P. | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 95.700 | MMLIC | | |
| .0000 | | | 41-2280129 | | | | Tower Square Capital Partners IIIA, L.P. | DE | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | 80-0920367 | | | | Tower Square Capital Partners IV-A, L.P. | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership/Influence | 21.300 | MMLIC | | |
| .0000 | | | 80-0920367 | | | | Tower Square Capital Partners IV-A, L.P. | DE | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | 04-1590850 | | | | West 46th Street Hotel LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | | | | | Barings Emerging Markets Debt Blended Total Return Fund | IRL | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | | | | | Barings Emerging Markets Debt Short Duration Fund | IRL | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | | | | | Barings Emerging Markets Sovereign Debt Fund | IRL | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | | | | | Babson Capital Loan Strategies Master Fund LP | CYM | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | | | | | Barings Global Investment Grade Corporate Plus Fund | IRL | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | 47-3758432 | | | | Barings Emerging Markets Debt Blended Total Return Fund | MA | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | | | | | Barings Emerging Markets Local Currency Debt Fund | MA | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | 47-3774453 | | | | Barings Global High Yield Fund | MA | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | 47-3790192 | | | | Baring Greater China Equity Fund | HKG | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | 47-3734770 | | | | Barings Total Return Bond Fund | MA | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | 47-3801860 | | | | Barings U.S. High Yield Fund | MA | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | 71-1018134 | | | | Great Lakes II LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 11.200 | MMLIC | | |
| .0000 | | | 71-1018134 | | | | Great Lakes II LLC | DE | NIA | C.M. Life Insurance Company | Ownership | 1.000 | MMLIC | | |
| .0000 | | | | | | | Somerset Special Opportunities Master Fund LP | CYM | NIA | Barings LLC | Management | | MMLIC | | |
| .0000 | | | 04-1590850 | | | | Wood Creek Venture Fund LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 40.000 | MMLIC | | |
| .0000 | | | 36-4823011 | | | | 50 Liberty LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 59.100 | MMLIC | | |
| .0000 | | | 36-4823011 | | | | 50 Liberty LLC | DE | NIA | C.M. Life Insurance Company | Ownership | 5.800 | MMLIC | | |
| .0000 | | | 80-0948028 | | | | One Harbor Shore LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 49.900 | MMLIC | | |
| .0000 | | | 80-0948028 | | | | One Harbor Shore LLC | DE | NIA | C.M. Life Insurance Company | Ownership | 4.900 | MMLIC | | |
| .0000 | | | 81-4382111 | | | | Budapester Strasse LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 82-2285211 | | | | Calgary Railway Holding LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 90.000 | MMLIC | | |
| .0000 | | | 82-2285211 | | | | Calgary Railway Holding LLC | DE | NIA | C.M. Life Insurance Company | Ownership | 10.000 | MMLIC | | |
| .0000 | | | 95-4207717 | | | | Cornerstone California Mortgage Fund I LLC | CA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 95-4207717 | | | | Cornerstone California Mortgage Fund II LLC | CA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 95-4207717 | | | | Cornerstone California Mortgage Fund III LLC | CA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 56-2630592 | | | | Cornerstone Fort Pierce Development LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 84.400 | MMLIC | | |
| .0000 | | | 56-2630592 | | | | Cornerstone Fort Pierce Development LLC | DE | NIA | C.M. Life Insurance Company | Ownership | 5.600 | MMLIC | | |

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|------------|------------|-------------------|------------|--------------|-----|--|--|----------------------|----------------------------------|--|--|--|--|----------------------------------|----|
| Group Code | Group Name | NAIC Company Code | ID Number | Federal RSSD | CIK | Name of Securities Exchange if Publicly Traded (U.S. or International) | Names of Parent, Subsidiaries Or Affiliates | Domiciliary Location | Relationship to Reporting Entity | Directly Controlled by (Name of Entity/Person) | Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other) | If Control is Ownership Provide Percentage | Ultimate Controlling Entity(ies)/Person(s) | Is an SCA Filing Required? (Y/N) | * |
| .0000 | | | 45-2632610 | | | | Cornerstone Permanent Mortgage Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 95.000 | MLLIC | | |
| .0000 | | | 45-2632610 | | | | Cornerstone Permanent Mortgage Fund | MA | NIA | Barings LLC | Management | | MLLIC | | |
| .0000 | | | 61-1750537 | | | | Cornerstone Permanent Mortgage Fund II | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 99.400 | MLLIC | | |
| .0000 | | | 61-1750537 | | | | Cornerstone Permanent Mortgage Fund II | MA | NIA | Baring LLC | Management | | MLLIC | | |
| .0000 | | | 35-2531693 | | | | Cornerstone Permanent Mortgage Fund III | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MLLIC | | |
| .0000 | | | 61-1793735 | | | | Cornerstone Permanent Mortgage Fund IV | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MLLIC | | |
| .0000 | | | 26-2399532 | | | | CREA/LYON West Gateway, LLC | DE | NIA | Company | Ownership | 54.000 | MLLIC | | |
| .0000 | | | 26-2399532 | | | | CREA/LYON West Gateway, LLC | DE | NIA | C.M. Life Insurance Company | Ownership | 6.000 | MLLIC | | |
| .0000 | | | 81-0890084 | | | | CREA Madison Member LLC | DE | NIA | C.M. Life Insurance Company | Ownership | 100.000 | MLLIC | | |
| .0000 | | | 82-1563809 | | | | CCB Montford Park LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 75.200 | MLLIC | | |
| .0000 | | | 82-1563809 | | | | CCB Montford Park LLC | DE | NIA | C.M. Life Insurance Company | Ownership | 4.800 | MLLIC | | |
| .0000 | | | 82-2783393 | | | | Danville Riverwalk Venture, LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MLLIC | | |
| .0000 | | | 20-3347091 | | | | Fan Pier Development LLC | DE | NIA | Company | Ownership | 59.300 | MLLIC | | |
| .0000 | | | 20-3347091 | | | | Fan Pier Development LLC | DE | NIA | C.M. Life Insurance Company | Ownership | 5.900 | MLLIC | | |
| .0000 | | | 46-3880526 | | | | Farrington London Holdings LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 94.500 | MLLIC | | |
| .0000 | | | 46-3880526 | | | | Farrington London Holdings LLC | DE | NIA | C.M. Life Insurance Company | Ownership | 5.500 | MLLIC | | |
| .0000 | | | 20-4819358 | | | | Johnston Groves LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 57.200 | MLLIC | | |
| .0000 | | | 81-5360103 | | | | Landmark Manchester Holdings LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MLLIC | | |
| .0000 | | | 82-3393166 | | | | Portland 400 Sixth Manager LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 95.000 | MLLIC | | |
| .0000 | | | | | | | Salomon Brothers Commercial Mortgage Trust 2001-MM | DE | NIA | Barings Real Estate Advisers LLC | Influence | | MLLIC | | |
| .0000 | | | 27-2977720 | | | | Savgrass Village Shopping Center LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 84.200 | MLLIC | | |
| .0000 | | | 27-2977720 | | | | Savgrass Village Shopping Center LLC | DE | NIA | C.M. Life Insurance Company | Ownership | 15.800 | MLLIC | | |
| .0000 | | | | | | | Ten Fan Pier Boulevard LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 3.700 | MLLIC | | |
| .0000 | | | | | | | Ten Fan Pier Boulevard LLC | DE | NIA | C.M. Life Insurance Company | Ownership | 0.400 | MLLIC | | |
| .0000 | | | 81-5273574 | | | | Three PW Office Holding LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 95.000 | MLLIC | | |
| .0000 | | | 35-2484550 | | | | Twenty Two Liberty LLC | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 59.200 | MLLIC | | |
| .0000 | | | 35-2484550 | | | | Twenty Two Liberty LLC | MA | NIA | C.M. Life Insurance Company | Ownership | 5.900 | MLLIC | | |
| .0000 | | | 45-4606547 | | | | UK LIW Manager LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 1.000 | MLLIC | | |
| .0000 | | | 45-4606547 | | | | UK LIW Member LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 99.000 | MLLIC | | |
| .0000 | | | 82-3250684 | | | | Unna, Dortmund Holding LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MLLIC | | |
| .0000 | | | 82-3281588 | | | | Via Ceresio Milan LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MLLIC | | |
| .0000 | | | 45-5401109 | | | | Washington Gateway Apartments Venture LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 92.000 | MLLIC | | |

13.10

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|------------|------------|-------------------|------------|--------------|------------|--|--|----------------------|----------------------------------|--|--|--|--|----------------------------------|----|
| Group Code | Group Name | NAIC Company Code | ID Number | Federal RSSD | CIK | Name of Securities Exchange if Publicly Traded (U.S. or International) | Names of Parent, Subsidiaries Or Affiliates | Domiciliary Location | Relationship to Reporting Entity | Directly Controlled by (Name of Entity/Person) | Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other) | If Control is Ownership Provide Percentage | Ultimate Controlling Entity(ies)/Person(s) | Is an SCA Filing Required? (Y/N) | * |
| .0000 | | | 45-5401109 | | | | Washington Gateway Apartments Venture LLC | DE | NIA | C.M. Life Insurance Company | Ownership | 4.800 | MLLIC | | |
| .0000 | | | 20-2970495 | | | | Waterford Development Associates | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 90.000 | MLLIC | | |
| .0000 | | | 47-1993493 | | | | Waterloo London Holdings LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MLLIC | | |
| .0000 | | | 46-3122029 | | | | WeHo Domain LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 77.400 | MLLIC | | |
| .0000 | | | 46-3122029 | | | | WeHo Domain LLC | DE | NIA | C.M. Life Insurance Company | Ownership | 12.600 | MLLIC | | |
| .0000 | | | 81-1552222 | | | | Willowood Lakeside Master LLC | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 50.000 | MLLIC | | |
| .0000 | | | 20-5481477 | | | | Ygnatio Valley Funding | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 90.000 | MLLIC | | |
| .0000 | | | 45-3168892 | | | | MassMutual Barings Dynamic Allocation Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.000 | MLLIC | | |
| .0000 | | | 51-0529328 | | 0000927972 | 00 | MassMutual Premier Main Street Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.000 | MLLIC | | |
| .0000 | | | 26-3229251 | | 0000927972 | 00 | MassMutual Premier Strategic Emerging Markets Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.000 | MLLIC | | |
| .0000 | | | 04-3277550 | | 0000927972 | 00 | MassMutual Premier Value Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.000 | MLLIC | | |
| .0000 | | | 14-1980900 | | 0000916053 | 00 | MassMutual Select Diversified International Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.000 | MLLIC | | |
| .0000 | | | 01-0821120 | | 0000916053 | 00 | MassMutual Select Diversified Value Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 3.900 | MLLIC | | |
| .0000 | | | 04-3512593 | | 0000916053 | 00 | MassMutual Select Fundamental Growth Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.000 | MLLIC | | |
| .0000 | | | 04-3513019 | | 0000916053 | 00 | MassMutual Select Large Cap Value Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.000 | MLLIC | | |
| .0000 | | | 42-1710935 | | 0000916053 | 00 | MassMutual Select Mid-Cap Value Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 62.500 | MLLIC | | |
| .0000 | | | 02-0769954 | | 0000916053 | 00 | MassMutual Select Small Capital Value Equity Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.000 | MLLIC | | |
| .0000 | | | 04-3584140 | | 0000916053 | 00 | MassMutual Select Small Company Value Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 14.600 | MLLIC | | |
| .0000 | | | 82-3347422 | | 0000916053 | 00 | MassMutual Select T. Rowe Price Retirement 2005 Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 65.100 | MLLIC | | |
| .0000 | | | 82-3355639 | | 0000916053 | 00 | MassMutual Select T. Rowe Price Retirement 2010 Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 1.600 | MLLIC | | |
| .0000 | | | 82-3382389 | | 0000916053 | 00 | MassMutual Select T. Rowe Price Retirement 2015 Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 1.000 | MLLIC | | |
| .0000 | | | 82-3396442 | | 0000916053 | 00 | MassMutual Select T. Rowe Price Retirement 2020 Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.200 | MLLIC | | |
| .0000 | | | 82-3417420 | | 0000916053 | 00 | MassMutual Select T. Rowe Price Retirement 2025 Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.400 | MLLIC | | |
| .0000 | | | 82-3430358 | | 0000916053 | 00 | MassMutual Select T. Rowe Price Retirement 2030 Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.200 | MLLIC | | |
| .0000 | | | 82-3439837 | | 0000916053 | 00 | MassMutual Select T. Rowe Price Retirement 2035 Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.500 | MLLIC | | |
| .0000 | | | 82-3451779 | | 0000916053 | 00 | MassMutual Select T. Rowe Price Retirement 2040 Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.300 | MLLIC | | |
| .0000 | | | 82-3472295 | | 0000916053 | 00 | MassMutual Select T. Rowe Price Retirement 2045 Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.800 | MLLIC | | |
| .0000 | | | 82-3481715 | | 0000916053 | 00 | MassMutual Select T. Rowe Price Retirement 2050 Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.600 | MLLIC | | |

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|------------|------------|-------------------|------------|--------------|------------|--|--|----------------------|----------------------------------|--|--|--|--|----------------------------------|----|
| Group Code | Group Name | NAIC Company Code | ID Number | Federal RSSD | CIK | Name of Securities Exchange if Publicly Traded (U.S. or International) | Names of Parent, Subsidiaries Or Affiliates | Domiciliary Location | Relationship to Reporting Entity | Directly Controlled by (Name of Entity/Person) | Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other) | If Control is Ownership Provide Percentage | Ultimate Controlling Entity(ies)/Person(s) | Is an SCA Filing Required? (Y/N) | * |
| .0000 | | | 82-3502011 | | 0000916053 | OQ | MassMutual Select T. Rowe Price Retirement 2055 Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 2.500 | MMLIC | | |
| .0000 | | | 82-3525148 | | 0000916053 | OQ | MassMutual Select T. Rowe Price Retirement 2060 Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 21.100 | MMLIC | | |
| .0000 | | | 82-3533944 | | 0000916053 | OQ | MassMutual Select T. Rowe Price Retirement Balanced Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 9.900 | MMLIC | | |
| .0000 | | | 46-4257056 | | | | MML Series International Equity Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.000 | MMLIC | | |
| .0000 | | | 47-3517233 | | | | MML Series II Asset Momentum Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 100.000 | MMLIC | | |
| .0000 | | | 47-3529636 | | | | MML Series II Dynamic Bond Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.000 | MMLIC | | |
| .0000 | | | 47-3544629 | | | | MML Series II Equity Rotation Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 95.600 | MMLIC | | |
| .0000 | | | 47-3559064 | | | | MML Series II Special Situations Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 85.600 | MMLIC | | |
| .0000 | | | 46-3289207 | | 0000916053 | OQ | MassMutual RetireSMART 2055 Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 19.000 | MMLIC | | |
| .0000 | | | 47-5326235 | | 0000916053 | OQ | MassMutual RetireSMART 2060 Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 87.600 | MMLIC | | |
| .0000 | | | 45-1618155 | | 0000916053 | OQ | MassMutual RetireSMART Conservative Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.000 | MMLIC | | |
| .0000 | | | 45-1618222 | | 0000916053 | OQ | MassMutual RetireSMART Growth Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.000 | MMLIC | | |
| .0000 | | | 45-1618262 | | 0000916053 | OQ | MassMutual RetireSMART Moderate Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.000 | MMLIC | | |
| .0000 | | | 45-1618046 | | 0000916053 | OQ | MassMutual RetireSMART Moderate Growth Fund | MA | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.000 | MMLIC | | |
| .0000 | | | 81-5311583 | | | | OFI Pictet Global Environmental Solution Fund | DE | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |
| .0000 | | | 93-6305075 | | | | Oppenheimer Developing Markets Fund | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 0.000 | MMLIC | | |
| .0000 | | | | | | | Oppenheimer Developing Markets Equity UCITS | JRL | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 37.200 | MMLIC | | |
| .0000 | | | | | | | Oppenheimer Developing Markets Equity UCITS | JRL | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |
| .0000 | | | | | | | Oppenheimer Emerging Markets Innovators UCITS | JRL | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |
| .0000 | | | | | | | Oppenheimer Emerging Markets Local Debt UCITS | JRL | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |
| .0000 | | | 34-40740DH | | | | Oppenheimer Emerging Markets Revenue ETF | JRL | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |
| .0000 | | | 46-2984739 | | | | Oppenheimer ESG Revenue ETF | DE | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |
| .0000 | | | 81-3492794 | | | | Oppenheimer Global Equity UCITS | JRL | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |
| .0000 | | | 81-3480754 | | | | Oppenheimer Global ESG Revenue ETF | DE | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |
| .0000 | | | 46-1604428 | | 0001562689 | OQ | Oppenheimer Global Real Estate Fund | DE | NIA | Massachusetts Mutual Life Insurance Company | Ownership | 99.500 | MMLIC | | |
| .0000 | | | 47-3676235 | | | | Oppenheimer Global Multi-Asset Growth Fund | DE | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |
| .0000 | | | 81-5010075 | | | | Oppenheimer Global Revenue ETF | DE | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |
| .0000 | | | | | | | Oppenheimer Global Value Equity UCITS | JRL | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |
| .0000 | | | 82-2693880 | | | | Oppenheimer Global Unconstrained Bond Fund | DE | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |
| .0000 | | | 81-4969331 | | | | Oppenheimer International Revenue ETF | DE | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |
| .0000 | | | | | | | Oppenheimer Preferred Securities & Income Fund | DE | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |
| .0000 | | | 82-3462739 | | | | Oppenheimer Russell 1000 Dynamic Multifactor ETF | DE | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |
| .0000 | | | 82-2791387 | | | | | DE | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |

13.12

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE Y

PART 1A - DETAIL OF INSURANCE HOLDING COMPANY SYSTEM

| 1 Group Code | 2 Group Name | 3 NAIC Company Code | 4 ID Number | 5 Federal RSSD | 6 CIK | 7 Name of Securities Exchange if Publicly Traded (U.S. or International) | 8 Names of Parent, Subsidiaries Or Affiliates | 9 Domi-ciliary Loca-tion | 10 Relation-ship to Reporting Entity | 11 Directly Controlled by (Name of Entity/Person) | 12 Type of Control (Ownership, Board, Management, Attorney-in-Fact, Influence, Other) | 13 If Control is Owner-ship Provide Percen-tage | 14 Ultimate Controlling Entity(ies)/Person(s) | 15 Is an SCA Filing Re-quired? (Y/N) | 16 * |
|-----------------|-----------------|------------------------|----------------|-------------------|----------|---|--|-----------------------------|---|--|--|--|--|---|---------|
| ..0000 | | | 82-2794856 | | | | Oppenheimer Russell 2000 Dynamic Multifactor ETF | DE | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |
| .0000 | | | 82-2716323 | | | | Oppenheimer Russell 1000 Momentum Factor ETF | DE | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |
| .0000 | | | 82-2759921 | | | | Oppenheimer Russell 1000 Value Factor ETF | DE | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |
| .0000 | | | 82-2701797 | | | | Oppenheimer Russell 1000 Low Volatility Factor ETF | DE | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |
| .0000 | | | 82-2740997 | | | | Oppenheimer Russell 1000 Size Factor ETF | DE | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |
| .0000 | | | 82-2732571 | | | | Oppenheimer Russell 1000 Quality Factor ETF | DE | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |
| .0000 | | | 82-2768498 | | | | Oppenheimer Russell 1000 Yield Factor ETF | DE | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |
| .0000 | | | 82-2222426 | | | | Oppenheimer SteelPath MLP & Energy Infrastructure Fund | DE | NIA | OppenheimerFunds, Inc. | Management | | MMLIC | | |

| Asterisk | Explanation |
|----------|---|
| 1 | Massachusetts Mutual Life Insurance Company owns .31% 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. |
| 4 | 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. |

SUPPLEMENTAL EXHIBITS AND SCHEDULES INTERROGATORIES

The following supplemental reports are required to be filed as part of your 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.

| | Response |
|--|----------|
| 1. Will the Trusteed Surplus Statement be filed with the state of domicile and the NAIC with this statement? | NO |
| 2. Will the Medicare Part D Coverage Supplement be filed with the state of domicile and the NAIC with this statement? | NO |
| 3. Will the Reasonableness of Assumptions Certification required by Actuarial Guideline XXXV be filed with the state of domicile and electronically with the NAIC? | NO |
| 4. 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? | NO |
| 5. 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? | NO |
| 6. 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? | NO |
| 7. 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? | NO |

Explanation:

1. Not required.
2. This line of business is not written by the company.
3. Not required.
4. Not required.
5. Not required.
6. Not required.
7. Not required.

Bar Code:

1. Trusteed Surplus Statement [Document Identifier 490]
2. Medicare Part D Coverage Supplement [Document Identifier 365]
3. Reasonableness of Assumptions Certification required by Actuarial Guideline XXXV [Document Identifier 445]
4. Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXV [Document Identifier 446]
5. Reasonableness of Assumptions Certification for Implied Guaranteed Rate Method required by Actuarial Guideline XXXVI [Document Identifier 447]
6. Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI [Document Identifier 448]
7. Reasonableness and Consistency of Assumptions Certification required by Actuarial Guideline XXXVI (Updated Market Value) [Document Identifier 449]



STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

OVERFLOW PAGE FOR WRITE-INS

Additional Write-ins for Assets Line 25

| | Current Statement Date | | | 4 December 31 Prior Year Net Admitted Assets |
|---|------------------------|-------------------------|---|---|
| | 1 Assets | 2 Nonadmitted Assets | 3 Net Admitted Assets (Cols. 1 - 2) | |
| 2504. Investment in trust | 30,299,336 | | 30,299,336 | 31,602,010 |
| 2505. Pension plan asset | 583,837,863 | 583,837,863 | | |
| 2506. Disallowed interest maintenance reserve | 328,746,854 | 328,746,854 | | |
| 2507. Cash advances to agents | 248,914,334 | 248,914,334 | | |
| 2508. Intangible assets | 101,810,066 | 101,810,066 | | |
| 2509. Commissions and expenses on long-term lease | 57,800,244 | 57,800,244 | | |
| 2510. Bills receivable | 579,508 | 579,508 | | |
| 2597. Summary of remaining write-ins for Line 25 from overflow page | 1,351,988,205 | 1,321,688,869 | 30,299,336 | 31,602,010 |

Additional Write-ins for Liabilities Line 25

| | 1 Current Statement Date | 2 December 31 Prior Year |
|---|--------------------------------|--------------------------------|
| 2504. Funds awaiting escheat and other miscellaneous | 72,828,201 | 70,738,008 |
| 2505. Deferred income | 15,620,263 | 15,798,281 |
| 2597. Summary of remaining write-ins for Line 25 from overflow page | 88,448,464 | 86,536,289 |

Additional Write-ins for Summary of Operations Line 8.3

| | 1 Current Year To Date | 2 Prior Year To Date | 3 Prior Year Ended December 31 |
|--|------------------------------|----------------------------|--------------------------------------|
| 08.304. Change in corporate owned life insurance | 5,758,478 | 31,846,440 | 138,163,589 |
| 08.305. Miscellaneous | 3,512,948 | 2,248,691 | 16,360,786 |
| 08.397. Summary of remaining write-ins for Line 8.3 from overflow page | 9,271,426 | 34,095,131 | 154,524,375 |

Additional Write-ins for Summary of Operations Line 27

| | 1 Current Year To Date | 2 Prior Year To Date | 3 Prior Year Ended December 31 |
|---|------------------------------|----------------------------|--------------------------------------|
| 2704. Ceded income on funds withheld | 50,334,798 | | |
| 2705. Change in liability for employee/agent benefit plans | 2,817,190 | 10,569,446 | 46,800,148 |
| 2706. Miscellaneous charges to operations | 1,300,635 | 9,906,747 | 9,219,616 |
| 2797. Summary of remaining write-ins for Line 27 from overflow page | 54,452,623 | 20,476,193 | 56,019,764 |

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE A - VERIFICATION

Real Estate

| | 1 Year to Date | 2 Prior Year Ended December 31 |
|--|-------------------|--------------------------------------|
| 1. Book/adjusted carrying value, December 31 of prior year | 857,001,296 | 976,679,957 |
| 2. Cost of acquired: | | |
| 2.1 Actual cost at time of acquisition | 136,450 | 49,163,425 |
| 2.2 Additional investment made after acquisition | 24,379,303 | 299,407,254 |
| 3. Current year change in encumbrances | (58,957,818) | (81,317,801) |
| 4. Total gain (loss) on disposals | 166,005,787 | 83,790,128 |
| 5. Deduct amounts received on disposals | 261,177,087 | 353,509,405 |
| 6. Total foreign exchange change in book/adjusted carrying value | | |
| 7. Deduct current year's other than temporary impairment recognized | 2,208,173 | 15,690,573 |
| 8. Deduct current year's depreciation | 21,632,845 | 101,521,690 |
| 9. Book/adjusted carrying value at the end of current period (Lines 1+2+3+4-5+6-7-8) | 703,546,913 | 857,001,296 |
| 10. Deduct total nonadmitted amounts | | |
| 11. Statement value at end of current period (Line 9 minus Line 10) | 703,546,913 | 857,001,296 |

SCHEDULE B - VERIFICATION

Mortgage Loans

| | 1 Year to Date | 2 Prior Year Ended December 31 |
|---|-------------------|--------------------------------------|
| 1. Book value/recorded investment excluding accrued interest, December 31 of prior year | 22,579,846,619 | 20,963,341,565 |
| 2. Cost of acquired: | | |
| 2.1 Actual cost at time of acquisition | 858,987,283 | 4,380,407,680 |
| 2.2 Additional investment made after acquisition | 102,512,490 | 162,970,943 |
| 3. Capitalized deferred interest and other | 7,458,076 | 27,706,382 |
| 4. Accrual of discount | 1,175,155 | 2,522,733 |
| 5. Unrealized valuation increase (decrease) | | |
| 6. Total gain (loss) on disposals | 552,750 | (26,570,127) |
| 7. Deduct amounts received on disposals | 511,939,382 | 3,082,428,844 |
| 8. Deduct amortization of premium and mortgage interest points and commitment fees | (373,039) | 2,909,861 |
| 9. Total foreign exchange change in book value/recorded investment excluding accrued interest | 51,460,059 | 154,806,148 |
| 10. Deduct current year's other than temporary impairment recognized | | |
| 11. Book value/recorded investment excluding accrued interest at end of current period (Lines 1+2+3+4+5+6-7-8+9-10) | 23,090,426,089 | 22,579,846,619 |
| 12. Total valuation allowance | | |
| 13. Subtotal (Line 11 plus Line 12) | 23,090,426,089 | 22,579,846,619 |
| 14. Deduct total nonadmitted amounts | | |
| 15. Statement value at end of current period (Line 13 minus Line 14) | 23,090,426,089 | 22,579,846,619 |

SCHEDULE BA - VERIFICATION

Other Long-Term Invested Assets

| | 1 Year to Date | 2 Prior Year Ended December 31 |
|--|-------------------|--------------------------------------|
| 1. Book/adjusted carrying value, December 31 of prior year | 7,722,717,021 | 7,233,113,042 |
| 2. Cost of acquired: | | |
| 2.1 Actual cost at time of acquisition | 63,470,879 | 1,581,211,660 |
| 2.2 Additional investment made after acquisition | 329,028,080 | 1,521,461,828 |
| 3. Capitalized deferred interest and other | | |
| 4. Accrual of discount | | |
| 5. Unrealized valuation increase (decrease) | 359,878,608 | 1,089,199,341 |
| 6. Total gain (loss) on disposals | 8,463,080 | (24,302,393) |
| 7. Deduct amounts received on disposals | 658,057,415 | 3,766,712,098 |
| 8. Deduct amortization of premium and depreciation | 114,843 | 449,633 |
| 9. Total foreign exchange change in book/adjusted carrying value | 19,028,212 | 102,490,723 |
| 10. Deduct current year's other than temporary impairment recognized | 18,480,445 | 13,295,448 |
| 11. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5+6-7-8+9-10) | 7,825,933,177 | 7,722,717,021 |
| 12. Deduct total nonadmitted amounts | 40,740,134 | 44,931,819 |
| 13. Statement value at end of current period (Line 11 minus Line 12) | 7,785,193,043 | 7,677,785,202 |

SCHEDULE D - VERIFICATION

Bonds and Stocks

| | 1 Year to Date | 2 Prior Year Ended December 31 |
|---|-------------------|--------------------------------------|
| 1. Book/adjusted carrying value of bonds and stocks, December 31 of prior year | 106,837,837,246 | 99,649,127,776 |
| 2. Cost of bonds and stocks acquired | 4,261,670,862 | 27,916,049,478 |
| 3. Accrual of discount | 73,054,512 | 272,189,271 |
| 4. Unrealized valuation increase (decrease) | 20,773,847 | 342,157,228 |
| 5. Total gain (loss) on disposals | 35,925,519 | 41,513,425 |
| 6. Deduct consideration for bonds and stocks disposed of | 3,740,376,280 | 22,005,237,281 |
| 7. Deduct amortization of premium | 34,273,608 | 157,747,912 |
| 8. Total foreign exchange change in book/adjusted carrying value | 246,975,209 | 911,278,992 |
| 9. Deduct current year's other than temporary impairment recognized | 1,291,890,478 | 131,493,731 |
| 10. Total investment income recognized as a result of prepayment penalties and/or acceleration fees | 6,939,385 | |
| 11. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9+10) | 106,416,636,214 | 106,837,837,246 |
| 12. Deduct total nonadmitted amounts | | |
| 13. Statement value at end of current period (Line 11 minus Line 12) | 106,416,636,214 | 106,837,837,246 |

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE D - PART 1B

Showing the Acquisitions, Dispositions and Non-Trading Activity
During the Current Quarter for all Bonds and Preferred Stock by NAIC Designation

| NAIC Designation | 1 Book/Adjusted Carrying Value Beginning of Current Quarter | 2 Acquisitions During Current Quarter | 3 Dispositions During Current Quarter | 4 Non-Trading Activity During Current Quarter | 5 Book/Adjusted Carrying Value End of First Quarter | 6 Book/Adjusted Carrying Value End of Second Quarter | 7 Book/Adjusted Carrying Value End of Third Quarter | 8 Book/Adjusted Carrying Value December 31 Prior Year |
|-------------------------------------|---|--|--|--|---|--|---|---|
| BONDS | | | | | | | | |
| 1. NAIC 1 (a) | 49,042,922,001 | 2,255,458,023 | 2,148,451,791 | (97,434,152) | 49,052,494,081 | | | 49,042,922,001 |
| 2. NAIC 2 (a) | 35,672,949,532 | 23,410,506,046 | 22,187,533,675 | 218,583,222 | 37,114,505,125 | | | 35,672,949,532 |
| 3. NAIC 3 (a) | 4,824,432,817 | 4,396,519,731 | 5,401,833,951 | 157,106,385 | 3,976,224,982 | | | 4,824,432,817 |
| 4. NAIC 4 (a) | 2,805,056,844 | 236,719,257 | 202,091,300 | (151,446,340) | 2,688,238,461 | | | 2,805,056,844 |
| 5. NAIC 5 (a) | 998,790,916 | 53,922,337 | 35,381,077 | 186,106,930 | 1,203,439,106 | | | 998,790,916 |
| 6. NAIC 6 (a) | 386,586,979 | 6,801,727 | 20,401,084 | (31,397,203) | 341,590,419 | | | 386,586,979 |
| 7. Total Bonds | 93,730,739,089 | 30,359,927,121 | 29,995,692,878 | 281,518,842 | 94,376,492,174 | | | 93,730,739,089 |
| PREFERRED STOCK | | | | | | | | |
| 8. NAIC 1 | 455,200,000 | | | | 455,200,000 | | | 455,200,000 |
| 9. NAIC 2 | 140,991,800 | | | 4,338,400 | 145,330,200 | | | 140,991,800 |
| 10. NAIC 3 | 140,482,835 | 460,873 | | | 140,943,708 | | | 140,482,835 |
| 11. NAIC 4 | 628,860 | | | 12,645,640 | 13,274,500 | | | 628,860 |
| 12. NAIC 5 | 15,840,658 | | | (12,739,779) | 3,100,879 | | | 15,840,658 |
| 13. NAIC 6 | 14,662,936 | | 3,037,298 | (260,766) | 11,364,872 | | | 14,662,936 |
| 14. Total Preferred Stock | 767,807,089 | 460,873 | 3,037,298 | 3,983,495 | 769,214,159 | | | 767,807,089 |
| 15. Total Bonds and Preferred Stock | 94,498,546,178 | 30,360,387,994 | 29,998,730,176 | 285,502,337 | 95,145,706,333 | | | 94,498,546,178 |

(a) Book/Adjusted Carrying Value column for the end of the current reporting period includes the following amount of short-term and cash equivalent bonds by NAIC designation:

NAIC 1 \$ 90,000,000 ; NAIC 2 \$ 3,256,130,236 ; NAIC 3 \$; NAIC 4 \$; NAIC 5 \$; NAIC 6 \$.

SCHEDULE DA - PART 1

Short-Term Investments

| | 1 | 2 | 3 | 4 | 5 |
|----------------|---------------------------------|-----------|-------------|------------------------------------|--|
| | Book/Adjusted Carrying Value | Par Value | Actual Cost | Interest Collected Year-to-Date | Paid for Accrued Interest Year-to-Date |
| 9199999 Totals | 526,448,546 | XXX | 525,642,233 | | |

SCHEDULE DA - VERIFICATION

Short-Term Investments

| | 1 | 2 |
|---|--------------|---------------------------------|
| | Year To Date | Prior Year Ended December 31 |
| 1. Book/adjusted carrying value, December 31 of prior year | 508,320,258 | 707,992,227 |
| 2. Cost of short-term investments acquired | 628,416,554 | 2,635,782,710 |
| 3. Accrual of discount | 1,679,282 | 5,773,955 |
| 4. Unrealized valuation increase (decrease) | | |
| 5. Total gain (loss) on disposals | (919) | 24,350 |
| 6. Deduct consideration received on disposals | 611,966,629 | 2,841,252,984 |
| 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) | 526,448,546 | 508,320,258 |
| 11. Deduct total nonadmitted amounts | | |
| 12. Statement value at end of current period (Line 10 minus Line 11) | 526,448,546 | 508,320,258 |

SCHEDULE DB - PART A - VERIFICATION

Options, Caps, Floors, Collars, Swaps and Forwards

| | |
|--|---------------|
| 1. Book/Adjusted Carrying Value, December 31, prior year (Line 9, prior year) | 2,878,021,222 |
| 2. Cost Paid/(Consideration Received) on additions | 224,073,543 |
| 3. Unrealized Valuation increase/(decrease) | (411,365,645) |
| 4. Total gain (loss) on termination recognized | (218,742,131) |
| 5. Considerations received/(paid) on terminations | (74,954,396) |
| 6. Amortization | (341,747) |
| 7. Adjustment to the Book/Adjusted Carrying Value of hedged item | |
| 8. Total foreign exchange change in Book/Adjusted Carrying Value | |
| 9. Book/Adjusted Carrying Value at End of Current Period (Lines 1+2+3+4-5+6+7+8) | 2,546,599,638 |
| 10. Deduct nonadmitted assets | |
| 11. Statement value at end of current period (Line 9 minus Line 10) | 2,546,599,638 |

SCHEDULE DB - PART B - VERIFICATION

Futures Contracts

| | |
|---|---------------|
| 1. Book/Adjusted carrying value, December 31 of prior year (Line 6, prior year) | |
| 2. Cumulative cash change (Section 1, Broker Name/Net Cash Deposits Footnote - Cumulative Cash Change column) | |
| 3.1 Add: | |
| Change in variation margin on open contracts - Highly Effective Hedges | |
| 3.11 Section 1, Column 15, current year to date minus | |
| 3.12 Section 1, Column 15, prior year | |
| Change in variation margin on open contracts - All Other | |
| 3.13 Section 1, Column 18, current year to date minus | 142,836,151 |
| 3.14 Section 1, Column 18, prior year | 18,023,700 |
| | 124,812,451 |
| | 124,812,451 |
| 3.2 Add: | |
| Change in adjustment to basis of hedged item | |
| 3.21 Section 1, Column 17, current year to date minus | |
| 3.22 Section 1, Column 17, prior year | |
| Change in amount recognized | |
| 3.23 Section 1, Column 19, current year to date minus | 142,836,151 |
| 3.24 Section 1, Column 19, prior year | 18,023,700 |
| | 124,812,451 |
| | 124,812,451 |
| 3.3 Subtotal (Line 3.1 minus Line 3.2) | |
| 4.1 Cumulative variation margin on terminated contracts during the year | (302,434,790) |
| 4.2 Less: | |
| 4.21 Amount used to adjust basis of hedged item | |
| 4.22 Amount recognized | (284,411,090) |
| | (284,411,090) |
| 4.3 Subtotal (Line 4.1 minus Line 4.2) | (18,023,701) |
| 5. Dispositions gains (losses) on contracts terminated in prior year: | |
| 5.1 Total gain (loss) recognized for terminations in prior year | |
| 5.2 Total gain (loss) adjusted into the hedged item(s) for terminations in prior year | 18,023,701 |
| 6. Book/Adjusted carrying value at end of current period (Lines 1+2+3.3-4.3-5.1-5.2) | |
| 7. Deduct total nonadmitted amounts | |
| 8. Statement value at end of current period (Line 6 minus Line 7) | |

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

| Replication (Synthetic Asset) Transactions | | | | | | | | Components of the Replication (Synthetic Asset) Transactions | | | | | | | |
|--|---|--|----------------------|-----------------------------------|-----------------|---------------------|--------------------|--|------------------------------------|------------------|-------------------------|---|---|------------------------------------|------------------|
| 1 Number | 2 Description | 3 NAIC Designation or Other Description | 4 Notional Amount | 5 Book/Adjusted Carrying Value | 6 Fair Value | 7 Effective Date | 8 Maturity Date | Derivative Instrument(s) Open | | | Cash Instrument(s) Held | | | | |
| | | | | | | | | 9 Description | 10 Book/Adjusted Carrying Value | 11 Fair Value | 12 CUSIP | 13 Description | 14 NAIC Designation or Other Description | 15 Book/Adjusted Carrying Value | 16 Fair Value |
| 57629*AA9 | Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds | 2 | 50,000,000 | 44,955,000 | 42,180,764 | 10/01/2012 | 10/01/2042 | Interest Rate Swap | (2,774,236) | 42086P-AC-7 | 42086P-AC-7 | Kingsland Ltd-SERIES 18-8A CLASS A | 1 | 44,955,000 | 44,955,000 |
| 57629*AA9 | Evergreen Basket of Long Fixed Rate Corp Inv Grade Equiv Bonds | 2 | | 11,313,877 | 12,350,000 | 10/01/2012 | 10/01/2042 | Interest Rate Swap | | 320808-AD-0 | 320808-AD-0 | FIRST MARYLAND CAP 1-LIMITED GUARANTEE NOTE | 2 | 11,313,877 | 12,350,000 |
| 57629*AB7 | Evergreen Basket of Long Fixed Rate Bank Loans B- or Above | 3 | 50,000,000 | 5,600,000 | 2,803,394 | 10/01/2012 | 10/01/2042 | Interest Rate Swap | (2,829,187) | 87246M-AA-0 | 87246M-AA-0 | TICP CLO LTD-SERIES 2016-6A CLASS A | 1 | 5,600,000 | 5,632,581 |
| 57629*AB7 | Evergreen Basket of Long Fixed Rate Bank Loans B- or Above | 3 | | 21,903,739 | 22,198,741 | 10/01/2012 | 10/01/2042 | Interest Rate Swap | | G7818N-ZZ-5 | G7818N-ZZ-5 | SASOL CHEMICALS (USA) LL TERM LOAN | 2 | 21,903,739 | 22,198,741 |
| 57629*AB7 | Evergreen Basket of Long Fixed Rate Bank Loans B- or Above | 3 | | 5,478,698 | 5,478,698 | 10/01/2012 | 10/01/2042 | Interest Rate Swap | | 77277L-A7-2 | 77277L-A7-2 | ROCKALL CLO BV Variable Funding Note- USD | 1 | 5,478,698 | 5,478,698 |
| 57629*AB7 | Evergreen Basket of Long Fixed Rate Bank Loans B- or Above | 3 | | 5,920,853 | 6,167,659 | 10/01/2012 | 10/01/2042 | Interest Rate Swap | | 83149E-AG-2 | 83149E-AG-2 | SLM STUDENT LN TR 2006-5-NOTE CL B | 1 | 5,920,853 | 6,167,659 |
| 57629*AB7 | Evergreen Basket of Long Fixed Rate Bank Loans B- or Above | 3 | | 5,470,000 | 5,501,556 | 10/01/2012 | 10/01/2042 | Interest Rate Swap | | 883310-AE-4 | 883310-AE-4 | THAYER PARK CLO LTD--THAYR 2017-1A | 1 | 5,470,000 | 5,501,556 |
| 57629*AB7 | Evergreen Basket of Long Fixed Rate Bank Loans B- or Above | 3 | | 6,969,154 | 6,876,382 | 10/01/2012 | 10/01/2042 | Interest Rate Swap | | 67104C-AB-3 | 67104C-AB-3 | OAK HILL CREDIT PARTNERS-SERIES 2013 - 8A CLASS B | 1 | 6,969,154 | 6,876,382 |
| 57629*AB7 | Evergreen Basket of Long Fixed Rate Bank Loans B- or Above | 3 | | 4,000,000 | 4,005,056 | 10/01/2012 | 10/01/2042 | Interest Rate Swap | | 09628F-AE-9 | 09628F-AE-9 | BlueMountain Fuji US CLO-SERIES 2017-3A CLASS B | 1 | 4,000,000 | 4,005,056 |
| 57629*AC5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 264,000,000 | 19,165,000 | 3,566,283 | 11/29/2012 | 11/29/2042 | Interest Rate Swap | (15,661,962) | 14316R-ZZ-6 | 14316R-ZZ-6 | Carlyle US CLO 2017-5 Re Term Loan | 1 | 19,165,000 | 19,228,245 |
| 57629*AC5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,390,884 | 7,264,289 | 11/29/2012 | 11/29/2042 | Interest Rate Swap | | 83149F-AD-6 | 83149F-AD-6 | SLMA 2006 6 NT CL B | 1 | 6,390,884 | 7,264,289 |
| 57629*AC5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,000,000 | 7,004,669 | 11/29/2012 | 11/29/2042 | Interest Rate Swap | | 67106J-AS-9 | 67106J-AS-9 | OHA CREDIT PARTNERS LTD--OAKC 2014-10A CR | 1 | 7,000,000 | 7,004,669 |
| 57629*AC5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 15,500,000 | 15,575,423 | 11/29/2012 | 11/29/2042 | Interest Rate Swap | | 375415-AA-4 | 375415-AA-4 | GILBERT PARK CLO LTD-SERIES 17-1A CLASS A | 1 | 15,500,000 | 15,575,423 |
| 57629*AC5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,500,000 | 13,510,679 | 11/29/2012 | 11/29/2042 | Interest Rate Swap | | 14310D-AY-3 | 14310D-AY-3 | CARLYLE GLOBAL MKT STRATEGIES CLO 2013-2 LTD MEZZ SECD DEF NT | 1 | 13,500,000 | 13,510,679 |
| 57629*AC5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,100,000 | 13,171,709 | 11/29/2012 | 11/29/2042 | Interest Rate Swap | | 67097Q-AC-9 | 67097Q-AC-9 | OCP CLO 2017-14 Ltd-SERIES 17-14A CLASS A1B | 1 | 13,100,000 | 13,171,709 |
| 57629*AC5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 40,424,873 | 39,262,093 | 11/29/2012 | 11/29/2042 | Interest Rate Swap | | 57542Z-AO-7 | 57542Z-AO-7 | MASMUTUAL ASSET FIN LLC SR SECD REV NT | 1 | 40,424,873 | 39,262,093 |
| 57629*AC5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 154,000,000 | 154,028,490 | 11/29/2012 | 11/29/2042 | Interest Rate Swap | | 126611-AL-6 | 126611-AL-6 | CVP CASCADE CLO LTD-CVPC 2014-2A A1R | 1 | 154,000,000 | 154,028,490 |
| 57629*AC5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,200,000 | 6,242,272 | 11/29/2012 | 11/29/2042 | Interest Rate Swap | | 94950G-AE-7 | 94950G-AE-7 | WELLFLEET CLO LTD-WELF 2017-1A B | 1 | 6,200,000 | 6,242,272 |
| 57629*AC5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,525,000 | 5,541,669 | 11/29/2012 | 11/29/2042 | Interest Rate Swap | | 01748R-AE-5 | 01748R-AE-5 | ALLEGRO CLO V LTD-SERIES 17-1A CLASS MEZ, FLT | 1 | 5,525,000 | 5,541,669 |
| 57629*AC5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,750,000 | 5,752,110 | 11/29/2012 | 11/29/2042 | Interest Rate Swap | | 03764Q-AU-6 | 03764Q-AU-6 | APIDOS CLO-SERIES 13-15A CLASS B1R | 1 | 5,750,000 | 5,752,110 |
| 57629*AE1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 100,000,000 | 25,000,000 | 22,421,351 | 12/27/2012 | 12/27/2042 | Interest Rate Swap | (2,584,374) | 939218-AU-7 | 939218-AU-7 | WASHINGTON MILL CLO LTD-WAMI 2014-1A A1R | 1 | 25,000,000 | 25,005,725 |
| 57629*AE1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,000,000 | 4,029,456 | 12/27/2012 | 12/27/2042 | Interest Rate Swap | | 83609R-AE-1 | 83609R-AE-1 | SOUND POINT CLO LTD-SNDPT 2017-1A C | 1 | 4,000,000 | 4,029,456 |
| 57629*AE1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 22,800,000 | 22,895,760 | 12/27/2012 | 12/27/2042 | Interest Rate Swap | | 14315J-YY-9 | 14315J-YY-9 | Carlyle US CLO 2017-3 Ri Term Loan | 1 | 22,800,000 | 22,895,760 |
| 57629*AE1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,200,000 | 3,202,429 | 12/27/2012 | 12/27/2042 | Interest Rate Swap | | 03330A-AC-6 | 03330A-AC-6 | Anchorage Capital CLO 3--ANCHC 2014-3RA B | 1 | 3,200,000 | 3,202,429 |
| 57629*AE1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 17,400,000 | 17,458,029 | 12/27/2012 | 12/27/2042 | Interest Rate Swap | | 81789G-AA-9 | 81789G-AA-9 | SEVEN STICKS CLO LTD-SR SECD NT CL A-1 144A | 1 | 17,400,000 | 17,458,029 |
| 57629*AE1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,800,000 | 8,803,450 | 12/27/2012 | 12/27/2042 | Interest Rate Swap | | 14310D-AW-7 | 14310D-AW-7 | Carlyle Global Market St-SERIES 2013-2A CLASS BR | 1 | 8,800,000 | 8,803,450 |
| 57629*AE1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,906,425 | 16,694,669 | 12/27/2012 | 12/27/2042 | Interest Rate Swap | | 24820R-AA-6 | 24820R-AA-6 | Statoil ASA-SENIOR UNSECURED NOTE | 1 | 13,906,425 | 16,694,669 |
| 57629*AE1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,500,000 | 10,559,577 | 12/27/2012 | 12/27/2042 | Interest Rate Swap | | 94949L-AA-8 | 94949L-AA-8 | WELLFLEET CLO LTD-WELF 2016-2A A1 | 1 | 10,500,000 | 10,559,577 |
| 57629*AE1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,000,000 | 10,002,390 | 12/27/2012 | 12/27/2042 | Interest Rate Swap | | 55953H-AL-7 | 55953H-AL-7 | MAGNETITE CLO LTD-SERIES 2015-12A CLASS BR | 1 | 10,000,000 | 10,002,390 |
| 57629*AD3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 100,000,000 | 16,196,714 | 13,656,146 | 12/27/2012 | 12/27/2042 | Interest Rate Swap | (2,584,374) | 92977H-AG-3 | 92977H-AG-3 | WACHOVIA STUDENT LOAN TR-WSLT 2005-1 B | 1 | 16,196,714 | 16,240,520 |
| 57629*AD3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 18,990,000 | 19,088,045 | 12/27/2012 | 12/27/2042 | Interest Rate Swap | | 04964K-AN-1 | 04964K-AN-1 | TRIUM CDO CORP-SERIES 9A CLASS BR | 1 | 18,990,000 | 19,088,045 |

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

| Replication (Synthetic Asset) Transactions | | | | | | | | Components of the Replication (Synthetic Asset) Transactions | | | | | | | | |
|--|--|---|-------------------------|---|-----------------|------------------------|-----------------------|--|--|------------------|-------------------------|-------------------|---|--|------------------|------------|
| 1 Number | 2 Description | 3 NAIC Designation or Other Description | 4 Notional Amount | 5 Book/Adjusted Carrying Value | 6 Fair Value | 7 Effective Date | 8 Maturity Date | Derivative Instrument(s) Open | | | Cash Instrument(s) Held | | | | | |
| | | | | | | | | 9 Description | 10 Book/Adjusted Carrying Value | 11 Fair Value | 12 CUSIP | 13 Description | 14 NAIC Designation or Other Description | 15 Book/Adjusted Carrying Value | 16 Fair Value | |
| 57629*AD3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 18,810,000 | 18,868,574 | 12/27/2012 | 12/27/2042 | Interest Rate Swap | | | | 92912V-AQ-8 | VOYA CLO LTD-VOYA 2014-2A A2AR | 1 | 18,810,000 | 18,868,574 |
| 57629*AD3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,800,000 | 6,844,554 | 12/27/2012 | 12/27/2042 | Interest Rate Swap | | | | 48251B-AA-8 | KKR FINANCIAL CLO LTD-KKR 16 A1 DRYDEN XXVI SR LN FD SR SEC2 NT CL | 1 | 6,800,000 | 6,844,554 |
| 57629*AD3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 32,002,032 | 31,904,211 | 12/27/2012 | 12/27/2042 | Interest Rate Swap | | | | 26250U-AC-9 | OCTAGON INV PARTNERS XVI LTD-SR SEC2 NT CL C1 | 1 | 32,002,032 | 31,904,211 |
| 57629*AD3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,900,000 | 4,901,847 | 12/27/2012 | 12/27/2042 | Interest Rate Swap | | | | 67590B-AE-0 | CARLYLE GLOBAL MARKET ST-SERIES 15- 1A CLASS BR | 1 | 4,900,000 | 4,901,847 |
| 57629*AD3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,450,000 | 3,451,290 | 12/27/2012 | 12/27/2042 | Interest Rate Swap | | | | 14311D-BC-9 | ARROWMARK COLORADO HOLDI-SERIES 17- 7A CLASS B | 2 | 3,450,000 | 3,451,290 |
| 57629*AD3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,000,000 | 4,010,184 | 12/27/2012 | 12/27/2042 | Interest Rate Swap | | | | 28622J-AB-3 | REGATTA IX FUNDING LTD-SERIES 17-1A CLASS B | 1 | 4,000,000 | 4,010,184 |
| 57629*AF8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 100,000,000 | 8,560,000 | 7,008,975 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | (1,586,575) | | | 75887V-AC-5 | LOM LTD PARTNERSHIP-SERIES 16A CLASS CR | 1 | 8,560,000 | 8,595,550 |
| 57629*AF8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,500,000 | 8,512,648 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | | 50181G-AU-4 | DRYDEN SENIOR LOAN FUND-SERIES 17- 49A CLASS B | 1 | 8,500,000 | 8,512,648 |
| 57629*AF8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,500,000 | 8,549,088 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | | 26244Q-AB-9 | SYMPHONY CLO V LTD-SR SEC2 NT CL A- 2 144A | 1 | 8,500,000 | 8,549,088 |
| 57629*AF8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,708,753 | 9,653,291 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | | 87155M-AC-5 | MADISON PARK FUNDING LTD-SERIES 2015-16A CLASS BR | 1 | 9,708,753 | 9,653,291 |
| 57629*AF8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,000,000 | 7,003,934 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | | 55818X-BA-0 | WIND RIVER CLO LTD-WINDR 2017-1A B | 1 | 7,000,000 | 7,003,934 |
| 57629*AF8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,050,000 | 11,090,255 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | | 88432M-AC-8 | WELLFLEET CLO 2015-1 LTD-SR SEC2 NT CL A-1 144A | 1 | 11,050,000 | 11,090,255 |
| 57629*AF8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 50,000,000 | 50,293,550 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | | 949496-AC-7 | CHA LN FDG 2013-2 LTD-SR SEC2 NT CL A | 1 | 50,000,000 | 50,293,550 |
| 57629*AH4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 100,000,000 | 28,324,775 | 26,309,655 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | (1,586,575) | | | 67104L-AA-5 | GOLDENTREE LOAN OPP VII LTD-SR SEC NT CL B-1 | 1 | 28,324,775 | 27,896,230 |
| 57629*AH4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,150,000 | 9,156,981 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | | 38137D-AC-1 | BARSON CLO LTD 2015-11-SERIES 15-2A CLASS AR | 1 | 9,150,000 | 9,156,981 |
| 57629*AH4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 14,200,000 | 14,269,864 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | | 06759F-AB-2 | 1828 CLO LTD-SR SEC2 NT CL A-1-S 144A | 1 | 14,200,000 | 14,269,864 |
| 57629*AH4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 16,040,000 | 16,078,897 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | | 282523-AB-5 | MADISON PARK FUNDING LTD-SERIES 15- 17A CLASS B1R | 1 | 16,040,000 | 16,078,897 |
| 57629*AH4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 12,700,000 | 12,787,516 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | | 55818Y-BE-0 | TRYN PARK CLO LTD-SR SEC2 NT CL A- 2 144A | 1 | 12,700,000 | 12,787,516 |
| 57629*AH4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 17,900,000 | 17,902,954 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | | 89852T-AC-2 | CIFC Funding 2018-1 Ltd-SERIES 18- 1A CLASS C | 1 | 17,900,000 | 17,902,954 |
| 57629*AH4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,200,000 | 4,204,019 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | | 12551R-AE-8 | GOLDENTREE LOAN OPP VII LTD-SR SEC NT CL C-1 | 1 | 4,200,000 | 4,204,019 |
| 57629*AG6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 100,000,000 | 5,400,000 | 3,818,166 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | (1,586,575) | | | 38137D-AG-2 | SOUND POINT CLO IX LTD-SERIES 2015- 2A CLASS B1R | 1 | 5,400,000 | 5,404,741 |
| 57629*AG6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,000,000 | 7,999,912 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | | 83609G-AN-5 | GOLDMAN SACHS GROUP INC-SENIOR UNSECURED | 1 | 8,000,000 | 7,999,912 |
| 57629*AG6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,830,469 | 3,884,916 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | | 38141G-VI-1 | SYMPHONY CLO LTD-SERIES 14-15A CLASS B1R | 1 | 3,830,469 | 3,884,916 |
| 57629*AG6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,400,000 | 9,401,137 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | | 87154E-AJ-9 | SLM STUDENT LOAN TRUST-SLMA 2013-3 CLASS B | 1 | 9,400,000 | 9,401,137 |
| 57629*AG6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,859,842 | 8,685,198 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | | 78447Y-AD-4 | WELLFLEET CLO 2016-2 LTD-WELF 2016-2A A2 | 1 | 8,859,842 | 8,685,198 |
| 57629*AG6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,973,068 | 6,904,116 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | | 94949L-AC-4 | LOM XIV LTD PARTNERSHIP-DEF MEZZ NT CL C | 1 | 6,973,068 | 6,904,116 |
| 57629*AG6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,067,827 | 5,002,670 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | | 50184V-AG-9 | MADISON PARK FUNDING LTD-SERIES 2017-23A CLASS B | 1 | 5,067,827 | 5,002,670 |
| 57629*AG6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,900,000 | 8,986,259 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | | 55820T-AC-2 | FLATIRON CLO LTD-FLAT 2017-1A C LOM LTD PARTNERSHIP-SERIES 22A | 1 | 8,900,000 | 8,986,259 |
| 57629*AG6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,650,000 | 8,717,288 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | | 33882G-AC-2 | CLASS A2 BLUEMOUNTAIN CLO LTD-BLUEM 2013-1A BR | 1 | 8,650,000 | 8,717,288 |
| 57629*AG6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,825,000 | 6,844,260 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | | 50189G-AC-6 | | 1 | 6,825,000 | 6,844,260 |
| 57629*AG6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,250,000 | 4,273,741 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | | 09628U-AQ-1 | | 1 | 4,250,000 | 4,273,741 |

S105.1

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

| Replication (Synthetic Asset) Transactions | | | | | | | | Components of the Replication (Synthetic Asset) Transactions | | | | | | | |
|--|---|---------------------------------------|-----------------|------------------------------|------------|----------------|---------------|--|------------------------------|-------------|-------------------------|--|---------------------------------------|------------------------------|------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Derivative Instrument(s) Open | | | Cash Instrument(s) Held | | | | |
| Number | Description | NAIC Designation or Other Description | Notional Amount | Book/Adjusted Carrying Value | Fair Value | Effective Date | Maturity Date | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | | | | | | Description | Book/Adjusted Carrying Value | Fair Value | CUSIP | Description | NAIC Designation or Other Description | Book/Adjusted Carrying Value | Fair Value |
| 57629*AG6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,350,000 | 6,415,557 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 26249K-AM-3 | DRYDEN SENIOR LOAN FUND--SERIES 2014-36A CLASS CR | 1 | 6,350,000 | 6,415,557 |
| 57629*AG6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 12,761,000 | 13,068,166 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 78447M-AD-0 | SLM STUDENT LOAN TRUST--SERIES 2013-1 CLASS B | 1 | 12,761,000 | 13,068,166 |
| 57629*AG6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,000,000 | 8,000,000 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 14310V-AN-7 | CARLYLE GLOBAL MARKET ST--SERIES 2014-2A CLASS CR | 1 | 8,000,000 | 8,000,000 |
| 57629*AJ0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 50,000,000 | 13,560,000 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | (793,287) | 09627D-AQ-8 | BLUEMOUNTAIN CLO LTD--BLUEM 2013-4A B1R | 1 | 13,560,000 | 13,565,790 |
| 57629*AJ0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,000,000 | 10,064,660 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 55819B-AL-4 | MADISON PARK FUNDING XVI--SERIES 15-18A CLASS A1R | 1 | 10,000,000 | 10,064,660 |
| 57629*AJ0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,493,639 | 9,430,296 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 63940A-AD-0 | NAVIENT STUDENT LOAN TRU--SERIES 17-4A CLASS B | 1 | 9,493,639 | 9,430,296 |
| 57629*AJ0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,600,000 | 9,653,251 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 00191Y-AM-6 | ARES CLO LTD--SERIES 2015 1-A CLASS A2R | 1 | 9,600,000 | 9,653,251 |
| 57629*AJ0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,500,000 | 7,626,000 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 26245C-AE-3 | DRYDEN SENIOR LOAN FUND--SERIES 2014-43A CLASS B | 1 | 7,500,000 | 7,626,000 |
| 57629*AJ0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,000,000 | 2,016,814 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 22616C-AE-3 | CRESTLINE DENALI CLO XV--SERIES 17-1A CLASS C | 1 | 2,000,000 | 2,016,814 |
| 57629*AK7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 50,000,000 | 10,000,000 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | (793,287) | 24380L-AE-3 | DEER CREEK CLO LTD 2017--SERIES 17-1A CLASS B | 1 | 10,000,000 | 10,045,760 |
| 57629*AK7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 12,000,000 | 12,021,852 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 03765P-AC-7 | APIDOS CLO XX1-SR SECURED NOTE CL A-2 | 1 | 12,000,000 | 12,021,852 |
| 57629*AK7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,725,000 | 11,746,726 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 38137P-AE-0 | GOLDENTREE LOAN OPP X LTD--SR SEC NT CL B | 1 | 11,725,000 | 11,746,726 |
| 57629*AK7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,570,000 | 13,621,295 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 48249V-AQ-4 | KKR FINANCIAL CLO LTD--SERIES 13-1A CLASS A2R | 1 | 13,570,000 | 13,621,295 |
| 57629*AK7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,850,000 | 4,874,206 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 08179H-AB-6 | BENEFIT STREET PARTNERS--SERIES 2017-12A CLASS A2 | 1 | 4,850,000 | 4,874,206 |
| 57629*AL5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 50,000,000 | 13,500,000 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | (793,287) | 47032@-AK-7 | JAMES CAMPBELL CO LLC SR NT SER 2014-E | 2 | 13,500,000 | 13,465,494 |
| 57629*AL5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,425,633 | 11,797,044 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 78442G-PL-4 | SLM STUDENT LOAN TRUST--SERIES 2005-4 CLASS B | 1 | 11,425,633 | 11,797,044 |
| 57629*AL5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,920,000 | 8,924,603 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 10302V-BC-8 | BOWMAN PARK CLO LTD--BOWPK 2014-1A B1R | 1 | 8,920,000 | 8,924,603 |
| 57629*AL5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,850,000 | 6,880,291 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 674000-AQ-7 | OAKTREE CLO LTD--SERIES 14-1A CLASS A2R | 1 | 6,850,000 | 6,880,291 |
| 57629*AL5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,840,000 | 6,870,930 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 88433R-AE-2 | WIND RIVER CLO LTD--SERIES 17-2A CLASS B | 1 | 6,840,000 | 6,870,930 |
| 57629*AL5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,000,000 | 5,037,270 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 50188Y-AB-0 | LCM LTD PARTNERSHIP--LCM 24A B C1FC FUNDING LTD--SERIES 17-3A CLASS A2 | 1 | 5,000,000 | 5,037,270 |
| 57629*AM3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 50,000,000 | 5,400,000 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | (793,287) | 12548J-AE-2 | ALM XIV LTD--SERIES 14-14A CLASS A2R2 | 1 | 5,400,000 | 5,431,412 |
| 57629*AM3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,900,000 | 11,910,353 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 74988L-AC-8 | ARES CLO LTD--SERIES 2015 1-A CLASS B2R | 1 | 11,900,000 | 11,910,353 |
| 57629*AM3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,050,000 | 3,079,558 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 00191Y-AP-9 | LCM LTD PARTNERSHIP--SERIES 13A CLASS CR | 1 | 3,050,000 | 3,079,558 |
| 57629*AM3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,500,000 | 4,543,889 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 50184K-AW-8 | BENEFIT STREET PARTNERS--BSP 2016-10A A1 | 1 | 4,500,000 | 4,543,889 |
| 57629*AM3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,000,000 | 5,026,695 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 08181L-AA-5 | HILDENE CLO IV LTD--SR SEC NT SER 2015-4A CL A-2 | 1 | 5,000,000 | 5,026,695 |
| 57629*AM3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,000,000 | 10,005,380 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 43132W-AC-4 | BABSON CLO LTD--BABSN 2014-11A CR | 1 | 10,000,000 | 10,005,380 |
| 57629*AM3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,750,000 | 8,752,179 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 05618L-AH-9 | BALLYROCK LTD--SERIES 16-1A CLASS B1 | 1 | 8,750,000 | 8,752,179 |
| 57629*AM3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,900,000 | 3,913,841 | 12/28/2012 | 12/28/2042 | Interest Rate Swap | | | 05875F-AC-1 | CARLYLE GLOBAL MARKET ST--SERIES 14-5A CLASS BR | 1 | 3,900,000 | 3,913,841 |
| 57629*AN1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 50,000,000 | 6,500,000 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | (1,623,656) | 14311A-AN-2 | DRYDEN 38 SR LN FD SR SEC NT CL B | 1 | 6,500,000 | 6,516,003 |
| 57629*AN1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,475,000 | 9,494,793 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 26249Q-AG-3 | Carlyle US CLO 2013-2 Re Term Loan | 1 | 9,475,000 | 9,494,793 |
| 57629*AN1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 21,237,500 | 21,260,861 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 14315J-MM-8 | | 1 | 21,237,500 | 21,260,861 |

S105.2

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

| Replication (Synthetic Asset) Transactions | | | | | | | | Components of the Replication (Synthetic Asset) Transactions | | | | | | | |
|--|---|---------------------------------------|-----------------|------------------------------|------------|----------------|---------------|--|------------------------------|-------------|-------------------------|--|---------------------------------------|------------------------------|------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Derivative Instrument(s) Open | | | Cash Instrument(s) Held | | | | |
| Number | Description | NAIC Designation or Other Description | Notional Amount | Book/Adjusted Carrying Value | Fair Value | Effective Date | Maturity Date | Description | Book/Adjusted Carrying Value | Fair Value | CUSIP | Description | NAIC Designation or Other Description | Book/Adjusted Carrying Value | Fair Value |
| 57629*AN1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,550,000 | 7,607,018 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 74982L-AS-9 | RACE POINT CLO LTD-SERIES 13-8A CLASS CR | 1 | 7,550,000 | 7,607,018 |
| 57629*AN1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,850,000 | 5,863,291 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 64131Q-AC-4 | NEUBERGER BERMAN LOAN AD-SERIES 2017-26A CLASS B | 1 | 5,850,000 | 5,863,291 |
| 57629*AN1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,330,000 | 4,334,932 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 55954E-AJ-8 | MAGNETITE XVIII LTD-DEF MEZZ NT SER 16-17A CL C | 1 | 4,330,000 | 4,334,932 |
| 57629*AP6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 50,000,000 | 13,560,000 | 11,940,615 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | (1,623,656) | 09627R-AL-8 | BLUEMOUNTAIN CLO LTD-BLUEM 2014-3A A2AR | 1 | 13,560,000 | 13,564,271 |
| 57629*AP6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 15,000,000 | 15,001,185 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 87247U-AU-7 | TICP CLO LTD-TICP 2014-3A B1R | 1 | 15,000,000 | 15,001,185 |
| 57629*AP6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 12,800,000 | 12,802,074 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 36319G-AP-9 | GALAXY CLO LTD-GALXY 2014-18A AR ... CARLYLE GLOBAL MARKET ST-CGMS 2014-3A A2R | 1 | 12,800,000 | 12,802,074 |
| 57629*AP6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,600,000 | 9,602,544 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 14308L-AS-2 | Waters Corporation Gtd Senior Note | 2 | 9,600,000 | 9,602,544 |
| 57629*AP6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,000,000 | 1,995,746 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 94184B-D8-9 | MADISON PARK FUNDING LTD-SERIES 2016-21A CLASS A2 | 1 | 2,000,000 | 1,995,746 |
| 57629*A04 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 50,000,000 | 14,300,000 | 12,708,633 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | (1,623,656) | 55820J-AC-4 | WEBSTER PK CLO SR SEC NT CL A-2 ... CHA LN FDG 2013-2 LTD-MEZZ SEC DEF NT CL C | 1 | 14,300,000 | 14,332,289 |
| 57629*A04 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,892,403 | 13,757,769 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 948214-AC-5 | ALM LOAN FUNDING-SERIES 13-8A CLASS A1R | 1 | 13,892,403 | 13,757,769 |
| 57629*A04 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,752,330 | 6,617,384 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 67104L-AC-1 | SYMPHONY CLO LTD-SERIES 14-15A CLASS CR | 1 | 6,752,330 | 6,617,384 |
| 57629*A04 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,350,000 | 4,369,318 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 020053-AS-3 | MILL CREEK CLO II LTD-SR SEC NT CL B-1 144A | 1 | 4,350,000 | 4,369,318 |
| 57629*A04 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,700,000 | 2,700,743 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 87154E-AN-0 | ARROWMARK COLORADO HOLDI-SERIES 17-7A CLASS B | 1 | 2,700,000 | 2,700,743 |
| 57629*A04 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,697,930 | 8,705,968 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 59983H-AB-5 | WIND RIVER CLO LTD-SERIES 14-3A CLASS C1R | 1 | 8,697,930 | 8,705,968 |
| 57629*A04 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,000,000 | 4,010,184 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 28622J-AB-3 | VOYA CLO LTD-VOYA 2017-1A B ... PALMER SQUARE CLO LTD-SERIES 15-1A CLASS A2R | 1 | 4,000,000 | 4,010,184 |
| 57629*AR2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 50,000,000 | 2,600,000 | 977,290 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | (1,623,656) | 88432D-AU-8 | DRYDEN SENIOR LOAN FUND-DRSLF 2016-45A B | 1 | 2,600,000 | 2,600,946 |
| 57629*AR2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,400,000 | 7,438,317 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 92916M-AC-5 | BLUEMOUNTAIN CLO 2016-1 LTD -SR SEC NT CL B | 1 | 7,400,000 | 7,438,317 |
| 57629*AR2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,350,000 | 5,380,190 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 69689A-AN-0 | VOYA CLO LTD-SERIES 14-4A CLASS CR | 2 | 5,350,000 | 5,380,190 |
| 57629*AR2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,500,000 | 4,513,514 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 26244M-AC-6 | BARSON CLO LTD 2016-1 SEC DEF MEZZ CL C | 1 | 4,500,000 | 4,513,514 |
| 57629*AR2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,150,000 | 7,156,235 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 09628Q-AC-9 | BLUEMOUNTAIN CLO LTD-BLUEM 2013-1A A2R | 1 | 7,150,000 | 7,156,235 |
| 57629*AR2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,200,000 | 4,201,441 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 92914R-AU-6 | JFIN CLO 2013 LTD SR SEC DEF NT CL B | 1 | 4,200,000 | 4,201,441 |
| 57629*AR2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,400,000 | 9,410,876 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 05618P-AJ-6 | Sound Point CLO II Ltd-SNDPT 2013-1A A2R | 1 | 9,400,000 | 9,410,876 |
| 57629*AR2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 12,740,000 | 12,802,133 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 09626U-AN-8 | LOM XV LTD PARTNERSHIP-SR SEC NT SER 15A CL C | 1 | 12,740,000 | 12,802,133 |
| 57629*ASO | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 50,000,000 | 10,064,842 | 8,283,096 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | (1,623,656) | 46616K-AE-4 | LOM XIX LTD PARTNERSHIP DEF MEZZ NT CL C | 1 | 10,064,842 | 9,906,752 |
| 57629*ASO | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,000,000 | 8,007,032 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 83608G-AQ-9 | GOLDENTREE LOAN OPPORTUN-GOLD9 2014-9A B1R | 1 | 8,000,000 | 8,007,032 |
| 57629*ASO | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 14,849,866 | 14,505,655 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 50184V-AE-4 | CENT CLO 18 LP-DEF NT SER 2013-18A CL C-1 144A | 1 | 14,849,866 | 14,505,655 |
| 57629*ASO | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,000,000 | 10,038,860 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 50188Q-AE-1 | TICP CLO VIII LTD-SERIES 2017-8A CLASS A2 | 1 | 10,000,000 | 10,038,860 |
| 57629*ASO | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,675,000 | 10,680,498 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 38137Q-AC-2 | OAKTREE CLO LTD-SERIES 14-1A CLASS BR | 1 | 10,675,000 | 10,680,498 |
| 57629*AT8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 50,000,000 | 5,069,485 | 3,279,549 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | (1,623,656) | 15136R-AJ-4 | | 1 | 5,069,485 | 4,903,205 |
| 57629*AT8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,000,000 | 10,030,430 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 87248W-AC-2 | | 1 | 10,000,000 | 10,030,430 |
| 57629*AT8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,430,000 | 3,462,955 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 674000-AS-3 | | 1 | 3,430,000 | 3,462,955 |

S105.3

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

| Replication (Synthetic Asset) Transactions | | | | | | | | Components of the Replication (Synthetic Asset) Transactions | | | | | | | |
|--|---|---------------------------------------|-----------------|------------------------------|------------|----------------|---------------|--|------------------------------|-------------|-------------------------|--|---------------------------------------|------------------------------|------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Derivative Instrument(s) Open | | | Cash Instrument(s) Held | | | | |
| Number | Description | NAIC Designation or Other Description | Notional Amount | Book/Adjusted Carrying Value | Fair Value | Effective Date | Maturity Date | Description | Book/Adjusted Carrying Value | Fair Value | CUSIP | Description | NAIC Designation or Other Description | Book/Adjusted Carrying Value | Fair Value |
| 57629*AT8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,900,000 | 5,912,154 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 48251F-AB-7 | KKR FINANCIAL CLO LTD-SERIES 17 CLASS B | 1 | 5,900,000 | 5,912,154 |
| 57629*AT8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,850,000 | 5,851,182 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 55818M-AQ-0 | MADISON PARK FUNDING LTD-MDPK 2014-13A BR1 | 1 | 5,850,000 | 5,851,182 |
| 57629*AT8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 22,650,000 | 22,765,515 | 12/31/2012 | 12/31/2042 | Interest Rate Swap | | | 14315C-ZZ-0 | Carlyle US CLO 2017-4 Ri Term Loan | 1 | 22,650,000 | 22,765,515 |
| 57629*AI1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 55,000,000 | 6,830,000 | 6,003,037 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | (862,547) | 55953E-AN-0 | MAGNETITE CLO LTD-SERIES 14-11A CLASS BR | 1 | 6,830,000 | 6,865,584 |
| 57629*AI1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,600,000 | 5,638,226 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 12550Y-AG-9 | CIFC FUNDING LTD-CIFC 2017-2A C | | 5,600,000 | 5,638,226 |
| 57629*AI1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,280,000 | 4,302,136 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 09629C-AE-5 | BLUEMOUNTAIN CLO LTD-SERIES 17-1A CLASS B | 1 | 4,280,000 | 4,302,136 |
| 57629*AI1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,250,000 | 4,293,422 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 00163K-AS-7 | ALM LOAN FUNDING-ALM 2013-TRA A2R GT LOAN FINANCING LTD-SERIES 2013-1A CLASS B | 1 | 4,250,000 | 4,293,422 |
| 57629*AI1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,824,894 | 4,810,752 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 36248M-AB-3 | PINNACLE PARK CLO LTD-SERIES 2014-1A CLASS CR | 1 | 4,824,894 | 4,810,752 |
| 57629*AI1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,100,000 | 6,102,031 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 72349B-AL-8 | WELFLEET CLO 2017-2 LTD-SERIES 17-2A CLASS A2 | 1 | 6,100,000 | 6,102,031 |
| 57629*AI1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,100,000 | 6,127,883 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 94951M-AC-7 | NEUBERGER BERMAN CLO LTD-NEUB 2017-24A C | 1 | 6,100,000 | 6,127,883 |
| 57629*AI1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,330,000 | 4,371,633 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 64130H-AE-1 | NEUBERGER BERMAN CLO LTD-NEUB 2013-14A A1R | 1 | 4,330,000 | 4,371,633 |
| 57629*AI1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,560,000 | 13,654,771 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 64129J-AQ-3 | | 1 | 13,560,000 | 13,654,771 |
| 57629*AV3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 60,000,000 | 17,970,000 | 18,180,826 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | (940,961) | 74982*-AD-7 | RXR Realty, LLC Senior Secured GOLDENTREE LOAN OPP VII LTD-SR SEC NT CL B-1 | 2 | 17,970,000 | 19,121,787 |
| 57629*AV3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,150,000 | 9,156,981 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 38137D-AC-1 | CARLYLE GLOBAL MARKET ST-SERIES 2014-1A CLASS CR | 1 | 9,150,000 | 9,156,981 |
| 57629*AV3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,000,000 | 10,005,630 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 14310M-AS-6 | EATON VANCE CDO LTD-SERIES 2013-1A CLASS A2R | 1 | 10,000,000 | 10,005,630 |
| 57629*AV3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 12,750,000 | 12,831,052 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 27830B-AQ-7 | CHA CREDIT PARTNERS LTD-SERIES 2012-7A CLASS B1R | 1 | 12,750,000 | 12,831,052 |
| 57629*AV3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 12,800,000 | 12,845,222 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 67102Q-AK-4 | LOM XIV LTD PARTNERSHIP-DEF MEZZ NT CL C | 1 | 12,800,000 | 12,845,222 |
| 57629*AX9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 55,000,000 | 7,905,810 | 7,105,150 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | (699,015) | 50184V-AG-9 | LOM XVII LTD PARTNERSHIP-SR NT SER 18A CL B-1 | 1 | 7,905,810 | 7,804,165 |
| 57629*AX9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 12,500,000 | 12,507,450 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 50188G-AE-3 | CHA LN FDG 2013-2 LTD-SR SEC NT CL B | 1 | 12,500,000 | 12,507,450 |
| 57629*AX9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,694,103 | 4,555,810 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 67104L-AB-3 | SLM STUDENT LOAN TRUST-SERIES 2005-6 CLASS B | 1 | 4,694,103 | 4,555,810 |
| 57629*AX9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,738,236 | 7,872,711 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 78442G-QA-7 | RACE POINT CLO LTD-SERIES 13-8A CLASS BR | 1 | 7,738,236 | 7,872,711 |
| 57629*AX9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,775,000 | 10,813,294 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 74982L-AQ-3 | | 1 | 10,775,000 | 10,813,294 |
| 57629*AX9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,000,000 | 13,034,957 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 26244Y-AC-0 | DRYDEN 42 SR LN FD-SR SEC NT CL B MADISON PARK FUNDING LTD-SERIES 17-25A CLASS C | 1 | 13,000,000 | 13,034,957 |
| 57629*AY7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 55,000,000 | 4,450,000 | 3,802,503 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | (699,015) | 55820R-AG-7 | MAGNETITE CLO LTD-SERIES 2017-19A CLASS C | 2 | 4,450,000 | 4,501,518 |
| 57629*AY7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,950,000 | 1,971,212 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 55954K-AE-5 | Carlyle US CLO 2017-1 Ri Term Loan | 1 | 1,950,000 | 1,971,212 |
| 57629*AY7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 22,850,000 | 22,956,710 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 14311C-RR-1 | ANCHORAGE CAPITAL CLO 20-SERIES 13-1A CLASS A2R | 1 | 22,850,000 | 22,956,710 |
| 57629*AY7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,000,000 | 10,045,440 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 033292-AS-2 | | 1 | 10,000,000 | 10,045,440 |
| 57629*AY7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,190,000 | 5,189,990 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 00900A-AN-8 | AIMCO-SERIES 14-AA CLASS C1R LOM XIX LTD PARTNERSHIP SR NT CL B | 1 | 5,190,000 | 5,189,990 |
| 57629*AY7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,000,000 | 7,023,058 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 50188Q-AC-5 | TREMAN PK CLO LTD SR SEC NT CL B-1 | 1 | 7,000,000 | 7,023,058 |
| 57629*AY7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,825,000 | 4,827,581 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 89473L-AB-0 | | 1 | 4,825,000 | 4,827,581 |
| 57629*AU5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 55,000,000 | 28,800,000 | 27,821,873 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | (1,120,831) | 67110H-AA-6 | OZLM XIV LTD SR SEC NT CL A-1A | 1 | 28,800,000 | 28,942,704 |

S105.4

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

| Replication (Synthetic Asset) Transactions | | | | | | | | Components of the Replication (Synthetic Asset) Transactions | | | | | | | | |
|--|--|---|-------------------------|---|-----------------|------------------------|-----------------------|--|--|------------------|-------------------------------|-------------------|---|--|------------------|------------|
| 1 Number | 2 Description | 3 NAIC Designation or Other Description | 4 Notional Amount | 5 Book/Adjusted Carrying Value | 6 Fair Value | 7 Effective Date | 8 Maturity Date | 9 Derivative Instrument(s) Open | | | 10 Cash Instrument(s) Held | | | | | |
| | | | | | | | | 9 Description | 10 Book/Adjusted Carrying Value | 11 Fair Value | 12 CUSIP | 13 Description | 14 NAIC Designation or Other Description | 15 Book/Adjusted Carrying Value | 16 Fair Value | |
| 57629*BE0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,100,000 | 9,103,067 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 09627R-AN-4 | BLUEMOUNTAIN CLO LTD-BLUEM 2014-3A BR | 1 | 9,100,000 | 9,103,067 |
| 57629*BE0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,100,000 | 9,159,277 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 40436V-AC-5 | HIGHBRIDGE LOAN MANAGEM-HLM 11A-17 C | 1 | 9,100,000 | 9,159,277 |
| 57629*BE0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,950,000 | 9,080,151 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 50184N-AP-7 | LCM LTD PARTNERSHIP-SERIES 15A CLASS CR | 1 | 8,950,000 | 9,080,151 |
| 57629*BE0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,600,000 | 4,661,286 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 65341K-AJ-5 | NEXTGEAR FLOORPLAN MASTE-SERIES 2016-1A CLASS AT | 1 | 4,600,000 | 4,661,286 |
| 57629*BE0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,100,000 | 13,111,345 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 75884B-AC-2 | Regatta X Funding Ltd-SERIES 2017- 3A CLASS B | 1 | 13,100,000 | 13,111,345 |
| 57629*BE0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,086,900 | 13,086,900 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 42086P-AC-7 | Kingsland Ltd-SERIES 18-8A CLASS A | 1 | 13,086,900 | 13,086,900 |
| 57629*BE0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 23,114,286 | 23,257,826 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 14315J-ZZ-5 | Carlyle US CLO 2017-2 Ri Term Loan | 1 | 23,114,286 | 23,257,826 |
| 57629*BF7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 20,000,000 | 24,938,746 | 05/19/2014 | 05/19/2034 | Interest Rate Swap | | 4,930,886 | | 67105V-AW-4 | QHA CREDIT PARTNERS LTD-OAKC 2013- 9A B1R | 1 | 20,000,000 | 20,007,860 |
| 57629*BF7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 38,040,901 | 37,014,097 | 05/19/2014 | 05/19/2034 | Interest Rate Swap | | | | 49638W-AD-8 | KINGSLAND VI LTD-SEC2 DEF MEZZ NT CL C 144A | 1 | 38,040,901 | 37,014,097 |
| 57629*BF7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 20,000,000 | 20,003,600 | 05/19/2014 | 05/19/2034 | Interest Rate Swap | | | | 872455-AS-9 | TICP CLO LTD-TICP 2014-1A A2BR SYMPHONY CLO LTD-SERIES 13-12A | 1 | 20,000,000 | 20,003,600 |
| 57629*BF7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 20,000,000 | 20,001,800 | 05/19/2014 | 05/19/2034 | Interest Rate Swap | | | | 13080B-AB-7 | CLASS B1R | 1 | 20,000,000 | 20,001,800 |
| 57629*BF7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 19,900,000 | 20,039,360 | 05/19/2014 | 05/19/2034 | Interest Rate Swap | | | | 39808P-AL-0 | Greywolf CLO V Ltd-GWOLF 2015-1A A1R | 1 | 19,900,000 | 20,039,360 |
| 57629*BF7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,000,000 | 9,003,942 | 05/19/2014 | 05/19/2034 | Interest Rate Swap | | | | 67104C-AC-1 | OAK HILL CREDIT PARTNERS-SERIES 2013-8A CLASS C | 1 | 9,000,000 | 9,003,942 |
| 57629*BG5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 150,000,000 | 28,871,100 | 40,952,785 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | 12,081,685 | | 42086P-AC-7 | Kingsland Ltd-SERIES 18-8A CLASS A | 1 | 28,871,100 | 28,871,100 |
| 57629*BG5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 34,000,000 | 34,021,284 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 03765D-AN-0 | APIDOS CLO-APID 2014-18A A2AR BIRCHWOOD PARK CLO LTD-BRCHW 2014- 1A B1R | 1 | 34,000,000 | 34,021,284 |
| 57629*BG5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,350,000 | 11,351,589 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 09073V-AS-3 | GOAL CAPITAL FUNDING TRU-SERIES 2006-1 CLASS B | 1 | 11,350,000 | 11,351,589 |
| 57629*BG5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,014,254 | 7,056,599 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 38021B-AG-5 | HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS B2 | 1 | 7,014,254 | 7,056,599 |
| 57629*BG5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,135,477 | 4,400,298 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 429827-AS-7 | Palmer Square CLO 2018-1-PLMRS 2018-1A A2 | 1 | 4,135,477 | 4,400,298 |
| 57629*BG5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,000,000 | 9,999,790 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 69703P-AC-3 | Babson CLO Ltd 2013-1-SERIES 2013- 1A CLASS CR | 1 | 10,000,000 | 9,999,790 |
| 57629*BG5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,050,000 | 8,999,854 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 06760E-AE-6 | Navient Student Loan Tru-SERIES 18- 1A CLASS B | 1 | 9,050,000 | 8,999,854 |
| 57629*BG5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,500,000 | 9,500,821 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 63940D-AD-4 | Neuberger Berman CLO XVI-SERIES 17- 16SA CLASS C | 1 | 9,500,000 | 9,500,821 |
| 57629*BG5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,750,000 | 7,749,673 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 64131T-AG-9 | Anchorage Capital CLO 3-ANOC 2014-3RA C | 1 | 7,750,000 | 7,749,673 |
| 57629*BG5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,500,000 | 7,479,645 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 03330A-AE-2 | Goldentree Loan Opportun-SERIES 2015-11A CLASS BR2 | 1 | 7,500,000 | 7,479,645 |
| 57629*BG5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,000,000 | 8,007,008 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 38137H-BW-7 | Greywolf CLO V Ltd-GWOLF 2015-1A A2R | 1 | 8,000,000 | 8,007,008 |
| 57629*BG5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,000,000 | 8,011,288 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 39808P-AN-6 | Barings CLO Ltd 2018-1-SERIES 18-1A CLASS B | 1 | 8,000,000 | 8,011,288 |
| 57629*BG5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,750,000 | 6,750,000 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 06760G-AC-5 | Allegro CLO VI Ltd-ALLEG 2017-2A C 1 CLASS B | 1 | 6,750,000 | 6,750,000 |
| 57629*BG5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,800,000 | 5,804,646 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 01749B-AC-3 | ALM LOAN FUNDING-SERIES 2013-7R2A CLASS A2R | 1 | 5,800,000 | 5,804,646 |
| 57629*BH3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 150,000,000 | 15,000,000 | 27,096,899 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | 12,031,289 | | 00164B-AS-6 | BLUEMOUNTAIN CLO LTD-SERIES 2014-4A CLASS B1R | 1 | 15,000,000 | 15,065,610 |
| 57629*BH3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 15,000,000 | 15,013,860 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 09627V-AS-4 | S/C STUDENT LOAN TRUST 2-SERIES 07- 1 CLASS B | 1 | 15,000,000 | 15,013,860 |
| 57629*BH3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,728,120 | 2,730,515 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 784424-AE-3 | QHA LOAN FUNDING LTD-OHALF 2012-1A B1R | 1 | 2,728,120 | 2,730,515 |
| 57629*BH3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 15,000,000 | 15,067,260 | 05/19/2014 | 05/19/2044 | Interest Rate Swap | | | | 67091H-AK-7 | | 1 | 15,000,000 | 15,067,260 |

S105.6

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

| Replication (Synthetic Asset) Transactions | | | | | | | | Components of the Replication (Synthetic Asset) Transactions | | | | | | | |
|--|---|---------------------------------------|-----------------|------------------------------|------------|----------------|---------------|--|------------------------------|------------|-------------------------|--|---------------------------------------|------------------------------|------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Derivative Instrument(s) Open | | | Cash Instrument(s) Held | | | | |
| Number | Description | NAIC Designation or Other Description | Notional Amount | Book/Adjusted Carrying Value | Fair Value | Effective Date | Maturity Date | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | | | | | | Description | Book/Adjusted Carrying Value | Fair Value | CUSIP | Description | NAIC Designation or Other Description | Book/Adjusted Carrying Value | Fair Value |
| 57629*BP5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 85,000,000 | 45,244,557 | 47,500,602 | 05/09/2014 | 05/09/2034 | Interest Rate Swap | 4,575,771 | | 77277L-B8-9 | ROCKALL CLO BV Variable Funding Note - GBP | 1 | 45,244,557 | 42,924,831 |
| 57629*BP5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 13,900,000 | 13,900,000 | 13,902,975 | 05/09/2014 | 05/09/2034 | Interest Rate Swap | | | 55952Y-AK-3 | MAGNETITE CLO LTD-SERIES 14-8A CLASS BR | 1 | 13,900,000 | 13,902,975 |
| 57629*BP5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,570,000 | 13,626,098 | 05/09/2014 | 05/09/2034 | Interest Rate Swap | | | 04016P-AC-2 | ARES CLO LTD-SERIES 17-43A CLASS B | 1 | 13,570,000 | 13,626,098 |
| 57629*BP5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,570,000 | 13,598,443 | 05/09/2014 | 05/09/2034 | Interest Rate Swap | | | 22616C-AC-7 | CRESTLINE DENALI CLO XV -SERIES 17-1A CLASS B | 1 | 13,570,000 | 13,598,443 |
| 57629*BQ3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 15,000,000 | 36,775,000 | 38,255,109 | 06/05/2014 | 06/05/2044 | Interest Rate Swap | | 1,468,084 | 43132V-AN-2 | HILDENE CLO LTD-HLDN 2014-3A AR | 1 | 36,775,000 | 36,787,025 |
| 57629*BQ3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,034,885 | 4,490,770 | 06/05/2014 | 06/05/2044 | Interest Rate Swap | | | 247358-EE-0 | EAIIV Delta MSN 15187 | 1 | 5,034,885 | 4,490,770 |
| 57629*BQ3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,055,090 | 4,472,769 | 06/05/2014 | 06/05/2044 | Interest Rate Swap | | | 247358-FG-4 | EAIIV Delta MSN 15200 | 1 | 5,055,090 | 4,472,769 |
| 57629*BQ3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,950,609 | 4,441,632 | 06/05/2014 | 06/05/2044 | Interest Rate Swap | | | 247358-LL-6 | EAIIV Delta MSN 15176 | 1 | 4,950,609 | 4,441,632 |
| 57629*BQ3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,022,546 | 4,479,764 | 06/05/2014 | 06/05/2044 | Interest Rate Swap | | | 247358-MT-8 | EAIIV Delta MSN 15186 | 1 | 5,022,546 | 4,479,764 |
| 57629*BQ3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,847,580 | 4,349,196 | 06/05/2014 | 06/05/2044 | Interest Rate Swap | | | 247358-VV-3 | EAIIV Delta MSN 15170 | 1 | 4,847,580 | 4,349,196 |
| 57629*BR1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 13,100,000 | 22,323,197 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | 9,212,586 | 67707B-AB-6 | CHA Credit Partners XV L-SERIES 17-15A CLASS B | 1 | 13,100,000 | 13,110,611 |
| 57629*BR1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 15,150,000 | 15,190,875 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 38137M-AC-1 | Goldentree Loan Opportun-SERIES 16-12A CLASS A2 | 1 | 15,150,000 | 15,190,875 |
| 57629*BR1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 14,400,000 | 14,401,829 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 05617Y-AS-8 | BABSON CLO LTD-BABSON 2013-11A A2R | 1 | 14,400,000 | 14,401,829 |
| 57629*BR1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,500,000 | 13,510,611 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 03329A-AE-5 | Anchorage Capital CLO Lt-SERIES 2014-SRA CLASS B | 1 | 13,500,000 | 13,510,611 |
| 57629*BR1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 14,356,260 | 14,512,593 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 247361-PP-9 | DELTA AIR LINES INC AIRBUS A330-200 N856NN | 1 | 14,356,260 | 14,512,593 |
| 57629*BR1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 35,000,000 | 35,188,370 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 14315J-AL-3 | CARLYLE GLOBAL MARKET ST-SERIES 17-2A CLASS A1B | 1 | 35,000,000 | 35,188,370 |
| 57629*BR1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,900,000 | 5,949,035 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 40436X-AG-2 | HIGHBRIDGE LOAN MANAGEME-SERIES 2014 CLASS BR | 1 | 5,900,000 | 5,949,035 |
| 57629*BR1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 14,500,000 | 14,607,170 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 553205-AC-9 | MP CLO III LTD-MP3 2013-1A AR | 1 | 14,500,000 | 14,607,170 |
| 57629*BT7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 20,000,000 | 29,226,002 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | 9,224,642 | 00191L-AQ-5 | ARES CLO LTD-SERIES 13-3A CLASS B1R | 1 | 20,000,000 | 20,001,360 |
| 57629*BT7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,400,000 | 11,402,212 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 88432D-AS-3 | WIND RIVER CLO LTD-SERIES 14-3A CLASS BR | 1 | 11,400,000 | 11,402,212 |
| 57629*BT7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 19,590,000 | 19,707,109 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 88433R-AC-6 | WIND RIVER CLO LTD-SERIES 17-2A CLASS A | 1 | 19,590,000 | 19,707,109 |
| 57629*BT7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 19,500,000 | 19,570,785 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 04016P-AA-6 | ARES CLO LTD-ARES 2017-43A A CEDAR FUNDING LTD-SERIES 13-1A CLASS BR | 1 | 19,500,000 | 19,570,785 |
| 57629*BT7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,500,000 | 8,530,065 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 15032T-AW-6 | CIFC FUNDING LTD-SERIES 17-4A CLASS A2 | 1 | 8,500,000 | 8,530,065 |
| 57629*BT7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,000,000 | 8,042,880 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 12551J-AE-6 | BABSON CLO LTD-SERIES 17-1A CLASS C | 1 | 8,000,000 | 8,042,880 |
| 57629*BT7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,100,000 | 5,129,269 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 06760B-AJ-1 | MARBLE POINT CLO X LTD-SERIES 2017-1A CLASS B | 1 | 5,100,000 | 5,129,269 |
| 57629*BT7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,100,000 | 5,135,414 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 566061-AE-7 | MADISON PARK FUNDING LTD-SERIES 15-17A CLASS CR | 1 | 5,100,000 | 5,135,414 |
| 57629*AX9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,400,000 | 3,433,711 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 55818Y-BG-5 | CHA CREDIT PARTNERS LTD-SERIES 2012-7A CLASS CR | 1 | 3,400,000 | 3,433,711 |
| 57629*AX9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,975,000 | 2,993,136 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 67102Q-AP-3 | TCI-CENT CLO 2016-1 LTD.-TCENT | 1 | 2,975,000 | 2,993,136 |
| 57629*AX9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,540,000 | 6,586,087 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 87231L-AC-5 | WELLFLEET CLO LTD-WELF 2017-1A A1 | 1 | 6,540,000 | 6,586,087 |
| 57629*AX9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,250,000 | 9,298,877 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 94950G-AA-5 | WIND RIVER CLO LTD-SERIES 16-2A CLASS B | 1 | 9,250,000 | 9,298,877 |
| 57629*AX9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,750,000 | 5,768,688 | 04/09/2013 | 04/09/2043 | Interest Rate Swap | | | 88433B-AC-1 | WIND RIVER CLO LTD-SERIES 16-2A CLASS B | 1 | 5,750,000 | 5,768,688 |

S105.8

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

| Replication (Synthetic Asset) Transactions | | | | | | | | Components of the Replication (Synthetic Asset) Transactions | | | | | | | |
|--|---|---------------------------------------|-----------------|------------------------------|------------|----------------|---------------|--|------------------------------|------------|-------------------------|---|---------------------------------------|------------------------------|------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Derivative Instrument(s) Open | | | Cash Instrument(s) Held | | | | |
| Number | Description | NAIC Designation or Other Description | Notional Amount | Book/Adjusted Carrying Value | Fair Value | Effective Date | Maturity Date | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | | | | | | Description | Book/Adjusted Carrying Value | Fair Value | CUSIP | Description | NAIC Designation or Other Description | Book/Adjusted Carrying Value | Fair Value |
| 57629*BU4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 17,000,000 | 26,230,303 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | 9,224,642 | 04014W-AL-9 | ARES CLO LTD-ARES 2014-1A A2R | 1 | 17,000,000 | 17,005,661 |
| 57629*BU4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,801,782 | 1,790,651 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 67590B-AA-8 | OCTAGON INV PARTNERS XVI LTD-SR SECD NT CL A | 1 | 1,801,782 | 1,790,651 |
| 57629*BU4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,000,000 | 13,018,603 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 48250W-AA-3 | KKR CLO 14 LTD-SR SECD NT SER 14 CL A-1A | 1 | 13,000,000 | 13,018,603 |
| 57629*BU4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 22,550,000 | 22,680,790 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 14315J-SS-9 | Carlyle US CLO 2013-1 Re Term Loan | 1 | 22,550,000 | 22,680,790 |
| 57629*BU4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,510,456 | 4,563,662 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 03765L-AG-7 | APIDOS CLO XX-MEZZ DEF NT CL C | 2 | 4,510,456 | 4,563,662 |
| 57629*BU4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 17,000,000 | 17,003,417 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 55818P-AN-0 | MADISON PARK FUNDING LTD-MDPK 2014-12A B1R | 1 | 17,000,000 | 17,003,417 |
| 57629*BU4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,313,324 | 8,249,645 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 75887N-AC-3 | REGATTA VI FUNDING LTD-SER 2016-1A CL A | 1 | 8,313,324 | 8,249,645 |
| 57629*BU4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,900,000 | 6,950,805 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 38136F-AL-7 | Goldentree Loan Managem-GLM 2017-1A C | 1 | 6,900,000 | 6,950,805 |
| 57629*BU4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,650,000 | 5,684,606 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 50184N-AN-2 | LGM LTD PARTNERSHIP-SERIES 15A CLASS BR | 1 | 5,650,000 | 5,684,606 |
| 57629*BU4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,116,797 | 9,022,658 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 61945C-AA-1 | MOSAIC CO/THE-SENIOR UNSECURED NOTE | 2 | 9,116,797 | 9,022,658 |
| 57629*BU4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 23,000,000 | 21,510,221 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 67332F-AG-8 | RRPF Engine Leasing Ltd Senior Secured | 2 | 23,000,000 | 21,510,221 |
| 57629*BV2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 7,906,822 | 16,977,984 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | 9,176,416 | 67104C-AB-3 | OAK HILL CREDIT PARTNERS-SERIES 2013 - 8A CLASS B | 1 | 7,906,822 | 7,801,568 |
| 57629*BV2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,600,000 | 7,628,728 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 75888K-AC-8 | REGATTA VIII FUNDING LTD-SERIES 2017-1A CLASS B | 1 | 7,600,000 | 7,628,728 |
| 57629*BV2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,460,000 | 7,504,581 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 00900C-AA-2 | AIMCO-AIMCO 2017-AA A | 1 | 7,460,000 | 7,504,581 |
| 57629*BV2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 22,701,840 | 22,024,684 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 49638W-AE-6 | KINGSLAND LTD-SERIES 2013-6A CLASS C | 1 | 22,701,840 | 22,024,684 |
| 57629*BV2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 19,601,751 | 19,024,263 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 67104L-AB-3 | OHA LN FDG 2013-2 LTD-SR SECD NT CL B | 1 | 19,601,751 | 19,024,263 |
| 57629*BV2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 41,958,000 | 41,958,000 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 42086P-AC-7 | Kingsland Ltd-SERIES 18-8A CLASS A | 1 | 41,958,000 | 41,958,000 |
| 57629*BV2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 15,000,000 | 15,030,525 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 46619T-AA-0 | JFIN CLO 2016 LTD - Sr Secd Nt CIA-1 | 1 | 15,000,000 | 15,030,525 |
| 57629*BV2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,200,000 | 6,203,119 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 09625J-AW-4 | BLUEMOUNTAIN CLO LTD-SERIES 2013-34 CLASS DR | 2 | 6,200,000 | 6,203,119 |
| 57629*BWO | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 4,877,321 | 13,564,351 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | 9,188,473 | 247358-XT-6 | EAIV Delta MSN 15166 | 1 | 4,877,321 | 4,375,878 |
| 57629*BWO | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,903,372 | 6,807,789 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 91754R-ZG-5 | STATE BOARD OF REGENTS 0-SERIES JSBR 2017-1 CLASS B | 1 | 6,903,372 | 6,807,789 |
| 57629*BWO | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,508,098 | 5,491,541 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 78443K-AK-2 | SLM STUDENT LOAN TRUST 2-SERIES 06-9 CLASS B | 1 | 5,508,098 | 5,491,541 |
| 57629*BWO | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,831,930 | 6,807,745 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 46616A-AE-6 | JFIN CLO 2012 LTD NT CL B | 1 | 6,831,930 | 6,807,745 |
| 57629*BWO | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,847,032 | 4,896,632 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 57643L-FG-6 | MASTR ASSET BACKED SECUR-SERIES 2004-OPT2 CLASS A1 | 1 | 4,847,032 | 4,896,632 |
| 57629*BWO | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,295,000 | 5,339,007 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 03766G-AG-7 | APIDOS CLO-SERIES 17-26A CLASS B | 1 | 5,295,000 | 5,339,007 |
| 57629*BWO | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,202,887 | 13,182,966 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 38021G-AC-3 | GOAL STRUCTURED SOLUTION-SERIES 2016-B CLASS A2 | 1 | 13,202,887 | 13,182,966 |
| 57629*BWO | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 16,300,000 | 16,369,161 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 33882G-AA-6 | FLATIRON CLO LTD-FLAT 2017-1A A | 1 | 16,300,000 | 16,369,161 |
| 57629*BWO | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 16,280,000 | 16,305,592 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 150323-AQ-6 | CEDAR FUNDING LTD-SERIES 14-4A CLASS BR | 1 | 16,280,000 | 16,305,592 |
| 57629*BWO | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 12,478,046 | 12,376,966 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 38137D-AA-5 | GOLDENTREE LOAN OPP VII LTD-SR SEC NT CL A | 1 | 12,478,046 | 12,376,966 |
| 57629*BWO | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 12,510,000 | 12,619,838 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 04943A-AE-9 | ATLAS SENIOR LOAN FUND L-SERIES 17-8A CLASS C | 1 | 12,510,000 | 12,619,838 |
| 57629*BWO | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,900,000 | 11,931,773 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 44330G-AE-3 | Highridge Loan Managem-SERIES 4A-2014 CLASS A2R | 1 | 11,900,000 | 11,931,773 |

S105.9

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

| Replication (Synthetic Asset) Transactions | | | | | | | | Components of the Replication (Synthetic Asset) Transactions | | | | | | | |
|--|---|---------------------------------------|-----------------|------------------------------|-------------|----------------|---------------|--|------------------------------|------------|-------------------------|---|---------------------------------------|------------------------------|-------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Derivative Instrument(s) Open | | | Cash Instrument(s) Held | | | | |
| Number | Description | NAIC Designation or Other Description | Notional Amount | Book/Adjusted Carrying Value | Fair Value | Effective Date | Maturity Date | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | | | | | | Description | Book/Adjusted Carrying Value | Fair Value | CUSIP | Description | NAIC Designation or Other Description | Book/Adjusted Carrying Value | Fair Value |
| 57629*B10 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,250,000 | 4,296,011 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 76761R-AE-9 | Riserva Clo Ltd-SERIES 2016-3A CLASS C1 | 1 | 4,250,000 | 4,296,011 |
| 57629*B10 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,500,000 | 8,622,630 | 07/22/2014 | 07/22/2044 | Interest Rate Swap | | | 87231L-AA-9 | TCI-CENT CLO 2016-1 LTD.-TCENT 2016-1A A1 | 1 | 8,500,000 | 8,622,630 |
| 57629*BZ3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 50,000,000 | 10,563,207 | 13,300,412 | 08/27/2014 | 08/27/2044 | Interest Rate Swap | | 2,756,637 | 67092R-AA-6 | OPC CLO 2016-12 Ltd-SERIES 16-12A CLASS A1 | 1 | 10,563,207 | 10,543,775 |
| 57629*BZ3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,342,874 | 6,466,744 | 08/27/2014 | 08/27/2044 | Interest Rate Swap | | | 78443G-AJ-4 | SLM STUDENT LOAN TRUST 2-SERIES 06-7 CLASS B | 1 | 6,342,874 | 6,466,744 |
| 57629*BZ3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,900,000 | 7,911,882 | 08/27/2014 | 08/27/2044 | Interest Rate Swap | | | 92916Q-AC-6 | VOYA CLO 2017-4 LTD-SERIES 17-4A CLASS B | 1 | 7,900,000 | 7,911,882 |
| 57629*BZ3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 15,000,000 | 15,063,165 | 08/27/2014 | 08/27/2044 | Interest Rate Swap | | | 14314B-AC-1 | CARLYLE GLOBAL MARKET ST-CGMS 2017-1A A2 | 1 | 15,000,000 | 15,063,165 |
| 57629*BZ3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,560,000 | 8,598,580 | 08/27/2014 | 08/27/2044 | Interest Rate Swap | | | 85816B-CQ-1 | STEELE CREEK CLO LTD-SERIES 15-1A CLASS BR | 1 | 8,560,000 | 8,598,580 |
| 57629*BZ3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,050,000 | 9,078,272 | 08/27/2014 | 08/27/2044 | Interest Rate Swap | | | 92912V-AN-5 | VOYA CLO LTD-VOYA 2014-2A A1R CVP CASCADE CLO LTD-CVPC 2013-CLO1 A1R | 1 | 9,050,000 | 9,078,272 |
| 57629*CA7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 50,000,000 | 60,500,000 | 63,284,271 | 08/27/2014 | 08/27/2044 | Interest Rate Swap | | 2,775,982 | 126612-AJ-9 | GREYWOLF CLO LTD-SERIES 2014-2A CLASS BR | 1 | 60,500,000 | 60,508,289 |
| 57629*CB5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 50,000,000 | 6,800,000 | 9,543,796 | 08/27/2014 | 08/27/2044 | Interest Rate Swap | | 2,727,619 | 398080-AN-1 | | 1 | 6,800,000 | 6,816,177 |
| 57629*CB5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,800,000 | 6,800,000 | 08/27/2014 | 08/27/2044 | Interest Rate Swap | | | 00900A-AJ-7 | AIMCO-SERIES 14-AA CLASS B1R | 1 | 6,800,000 | 6,800,000 |
| 57629*CB5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 15,000,000 | 15,001,500 | 08/27/2014 | 08/27/2044 | Interest Rate Swap | | | 88432C-AS-5 | WIND RIVER CLO LTD-WINDR 2014-1A B1R | 1 | 15,000,000 | 15,001,500 |
| 57629*CB5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,600,000 | 3,601,242 | 08/27/2014 | 08/27/2044 | Interest Rate Swap | | | 87154E-AQ-3 | SYMPHONY CLO LTD-SYMP 2014-15A DR | 2 | 3,600,000 | 3,601,242 |
| 57629*CB5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 14,100,000 | 14,168,526 | 08/27/2014 | 08/27/2044 | Interest Rate Swap | | | 06759Y-AA-3 | BARINGS CLO LTD-BABSN 2016-3A A1 BAIN CAPITAL CREDIT CLO -SERIES 2017-2A CLASS CR | 1 | 14,100,000 | 14,168,526 |
| 57629*CB5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,350,000 | 2,375,935 | 08/27/2014 | 08/27/2044 | Interest Rate Swap | | | 14954W-AQ-9 | | 1 | 2,350,000 | 2,375,935 |
| 57629*CB5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,793,871 | 2,777,995 | 08/27/2014 | 08/27/2044 | Interest Rate Swap | | | 045487-AA-3 | ASSOC BANC-CORP-SR UNSECURED BLUEMOUNTAIN CLO LTD-BLUEM 2014-1A B1R | 2 | 2,793,871 | 2,777,995 |
| 57629*CC3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 50,000,000 | 21,300,000 | 24,012,403 | 08/27/2014 | 08/27/2044 | Interest Rate Swap | | 2,693,765 | 09627L-AN-7 | ALM XIV Ltd-SERIES 14-14A CLASS A1R2 | 1 | 21,300,000 | 21,318,638 |
| 57629*CC3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 15,900,000 | 15,975,700 | 08/27/2014 | 08/27/2044 | Interest Rate Swap | | | 74988L-AA-2 | | 1 | 15,900,000 | 15,975,700 |
| 57629*CC3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,175,000 | 13,175,000 | 08/27/2014 | 08/27/2044 | Interest Rate Swap | | | 06760G-AA-9 | Barings CLO Ltd 2018-I-SERIES 18-1A CLASS A1 | 1 | 13,175,000 | 13,175,000 |
| 57629*CE9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 150,000,000 | 110,000,000 | 118,170,888 | 09/08/2014 | 09/08/2044 | Interest Rate Swap | | 8,140,418 | 872455-AN-0 | TICP CLO LTD-TICP 2014-1A A1R | 1 | 110,000,000 | 110,030,470 |
| 57629*CE9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 21,465,000 | 35,233,947 | 09/08/2014 | 09/08/2044 | Interest Rate Swap | | | Z22066-36-8 | AUST & NZ BANKING GROUP-SUBORDINATED NOTE | 1 | 21,465,000 | 35,233,947 |
| 57629*CE9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,380,000 | 11,384,006 | 09/08/2014 | 09/08/2044 | Interest Rate Swap | | | 55818R-AT-3 | MADISON PARK FUNDING LTD-SERIES 14-14A CLASS C1R | 1 | 11,380,000 | 11,384,006 |
| 57629*CE9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,750,000 | 2,750,000 | 09/08/2014 | 09/08/2044 | Interest Rate Swap | | | 04015U-AK-4 | Ares XXXVIII CLO Ltd-SERIES 2015-38A CLASS CR | 1 | 2,750,000 | 2,750,000 |
| 57629*CE9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,590,000 | 2,608,332 | 09/08/2014 | 09/08/2044 | Interest Rate Swap | | | 88433R-AG-7 | WIND RIVER CLO LTD-SERIES 17-2A CLASS C1 | 1 | 2,590,000 | 2,608,332 |
| 57629*CE9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,500,000 | 2,479,133 | 09/08/2014 | 09/08/2044 | Interest Rate Swap | | | 00900L-AJ-3 | AIMCO CLO Series 2015-A-SERIES 15-AA CLASS CR | 1 | 2,500,000 | 2,479,133 |
| 57629*CF6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 30,000,000 | 14,000,000 | 16,706,047 | 09/17/2014 | 09/17/2044 | Interest Rate Swap | | 2,654,499 | 39862E-AB-0 | GRIPPEN PARK CLO LTD-SERIES 17-1A CLASS B | 1 | 14,000,000 | 14,051,548 |
| 57629*CF6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,600,000 | 6,633,924 | 09/17/2014 | 09/17/2044 | Interest Rate Swap | | | 05618M-AY-0 | BABSON CLO LTD-BABSN 2014-3A C1R | 1 | 6,600,000 | 6,633,924 |
| 57629*CF6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,750,000 | 11,765,945 | 09/17/2014 | 09/17/2044 | Interest Rate Swap | | | 50200F-AE-9 | LCM 26 Ltd-SERIES 26A CLASS B | 1 | 11,750,000 | 11,765,945 |
| 57629*CG4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 55,000,000 | 10,850,000 | 11,920,825 | 10/06/2014 | 10/06/2034 | Interest Rate Swap | | 1,031,928 | 03763Y-AQ-9 | APIDOS CLO-APID 2012-11A BR | 1 | 10,850,000 | 10,888,897 |
| 57629*CG4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 15,900,000 | 15,900,000 | 10/06/2014 | 10/06/2034 | Interest Rate Swap | | | 06760G-AB-7 | Barings CLO Ltd 2018-I-SERIES 18-1A CLASS A2 | 1 | 15,900,000 | 15,900,000 |
| 57629*CG4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 20,100,000 | 20,195,375 | 10/06/2014 | 10/06/2034 | Interest Rate Swap | | | 77341D-AA-5 | Rockford Tower CLO 2017--ROCKT 2017-3A A | 1 | 20,100,000 | 20,195,375 |

S105.10

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

| Replication (Synthetic Asset) Transactions | | | | | | | | Components of the Replication (Synthetic Asset) Transactions | | | | | | | |
|--|---|---------------------------------------|-----------------|------------------------------|------------|----------------|---------------|--|------------------------------|------------|-------------------------|--|---------------------------------------|------------------------------|------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Derivative Instrument(s) Open | | | Cash Instrument(s) Held | | | | |
| Number | Description | NAIC Designation or Other Description | Notional Amount | Book/Adjusted Carrying Value | Fair Value | Effective Date | Maturity Date | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | | | | | | Description | Book/Adjusted Carrying Value | Fair Value | CUSIP | Description | NAIC Designation or Other Description | Book/Adjusted Carrying Value | Fair Value |
| 57629*CG4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,802,332 | 3,753,334 | 10/06/2014 | 10/06/2034 | Interest Rate Swap | | | 501886-AN-3 | LCM XVIII LTD PARTNERSHIP-DEF MEZZ NT CL D 144A | 2 | 3,802,332 | 3,753,334 |
| 57629*CG4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,000,000 | 5,002,045 | 10/06/2014 | 10/06/2034 | Interest Rate Swap | | | 817176-AS-9 | SENECA PARK CLO LTD-SPARK 2014-1A CR | 1 | 5,000,000 | 5,002,045 |
| 57629*CH2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 100,000,000 | 54,766,533 | 59,392,841 | 10/06/2014 | 10/06/2044 | Interest Rate Swap | | 4,829,508 | 28108R-AA-0 | EdLine Student Loan Fund-ESLFT 2017-A A | 1 | 54,766,533 | 54,563,333 |
| 57629*CH2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,304,291 | 8,265,794 | 10/06/2014 | 10/06/2044 | Interest Rate Swap | | | 61744C-NB-8 | MORGAN STANLEY CAPITAL I-SERIES 2005-HE2 CLASS M1 | 1 | 8,304,291 | 8,265,794 |
| 57629*CH2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,900,000 | 4,929,723 | 10/06/2014 | 10/06/2044 | Interest Rate Swap | | | 12481K-AC-2 | CBAM 2017-2 LTD-SERIES 17-2A CLASS B1 | 1 | 4,900,000 | 4,929,723 |
| 57629*CH2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,950,000 | 2,950,696 | 10/06/2014 | 10/06/2044 | Interest Rate Swap | | | 13080B-AD-3 | SYMPHONY CLO LTD-SERIES 13-12A CLASS CR | 1 | 2,950,000 | 2,950,696 |
| 57629*CH2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 20,000,000 | 20,052,460 | 10/06/2014 | 10/06/2044 | Interest Rate Swap | | | 94950G-AC-1 | WELLFLEET CLO LTD-WELF 2017-1A A2 | 1 | 20,000,000 | 20,052,460 |
| 57629*CH2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 15,375,000 | 15,375,753 | 10/06/2014 | 10/06/2044 | Interest Rate Swap | | | 87247C-AQ-6 | TICP CLO LTD-TICP 2014-2A A2AR | 1 | 15,375,000 | 15,375,753 |
| 57629*CJ8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 2 | 175,000,000 | 60,000,000 | 64,647,592 | 10/10/2014 | 10/10/2044 | Interest Rate Swap | | 5,880,232 | G7332F-AD-5 | PPPF Engine Leasing Ltd Senior Secured | 2 | 60,000,000 | 58,767,360 |
| 57629*CJ8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 2 | | 27,178,018 | 28,330,500 | 10/10/2014 | 10/10/2044 | Interest Rate Swap | | | 629394-AA-5 | NTC CAPITAL I-UNSECURED BOND CULLEN/FROST CAP TR II-SUBORDINATED | 2 | 27,178,018 | 28,330,500 |
| 57629*CJ8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 2 | | 20,895,401 | 15,665,000 | 10/10/2014 | 10/10/2044 | Interest Rate Swap | | | 230000-AB-7 | NOTE | 2 | 20,895,401 | 15,665,000 |
| 57629*CJ8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 2 | | 20,500,000 | 20,504,920 | 10/10/2014 | 10/10/2044 | Interest Rate Swap | | | 09627X-AW-1 | BLUEMOUNTAIN CLO LTD-SERIES 2015-1A CLASS A2R | 1 | 20,500,000 | 20,504,920 |
| 57629*CJ8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 2 | | 18,700,000 | 18,704,918 | 10/10/2014 | 10/10/2044 | Interest Rate Swap | | | 72349B-AK-0 | PINNACLE PARK CLO LTD-SERIES 2014-1A CLASS BR | 1 | 18,700,000 | 18,704,918 |
| 57629*CJ8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 2 | | 16,100,000 | 16,168,006 | 10/10/2014 | 10/10/2044 | Interest Rate Swap | | | 873549-AC-3 | Taconic Park CLO Ltd 201-SERIES 2016-1A CLASS A2 | 1 | 16,100,000 | 16,168,006 |
| 57629*CJ8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 2 | | 1,860,052 | 1,877,355 | 10/10/2014 | 10/10/2044 | Interest Rate Swap | | | 09627L-AJ-6 | BLUEMOUNTAIN CLO 2014-1 LTD SR SEC DEF NT CL D | 1 | 1,860,052 | 1,877,355 |
| 57629*CJ8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 2 | | 4,543,623 | 4,585,317 | 10/10/2014 | 10/10/2044 | Interest Rate Swap | | | 09627V-AG-0 | BLUEMOUNTAIN CLO 2014-4 LTD-SR SEC DEF NT CL D | 1 | 4,543,623 | 4,585,317 |
| 57629*CJ8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 2 | | 3,195,990 | 3,251,729 | 10/10/2014 | 10/10/2044 | Interest Rate Swap | | | 05617Y-AG-4 | BABSON CLO LTD 2013-II-SR SEC DEF NT CL C 144A | 2 | 3,195,990 | 3,251,729 |
| 57629*CJ8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 2 | | 6,302,357 | 7,122,115 | 10/10/2014 | 10/10/2044 | Interest Rate Swap | | | 78442G-RC-2 | SLMA 2005-9 STUDENT LN-BKD NT CL B | 1 | 6,302,357 | 7,122,115 |
| 57629*CK5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 75,000,000 | 79,205,709 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | 4,207,134 | 14311A-AJ-1 | CARLYLE GLOBAL MARKET ST-SERIES 14-5A CLASS A1R | 1 | 75,000,000 | 74,998,575 |
| 57629*CK5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 50,000,000 | 50,010,950 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 04964W-AL-9 | ATRIUM CDO CORP-ATRM 11A A1R | 1 | 50,000,000 | 50,010,950 |
| 57629*CL3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 65,000,000 | 69,613,046 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | 4,231,431 | 949496-AC-7 | WELLFLEET CLO 2015-1 LTD-SR SEC DEF NT CL A-1 144A | 1 | 65,000,000 | 65,381,615 |
| 57629*CL3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 38,750,000 | 38,755,464 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 67106J-AQ-3 | CHA CREDIT PARTNERS LTD-OAKC 2014-10A BR | 1 | 38,750,000 | 38,755,464 |
| 57629*CL3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 21,771,340 | 21,502,193 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 49638W-AB-2 | KINGSLAND VI LTD-SR SEC DEF NT CL A1 144A | 1 | 21,771,340 | 21,502,193 |
| 57629*CM1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 50,000,000 | 54,435,162 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | 4,425,812 | 67106J-AN-0 | CHA CREDIT PARTNERS LTD-OAKC 2014-10A AR | 1 | 50,000,000 | 50,009,350 |
| 57629*CM1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 45,954,000 | 45,954,000 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 42086P-AC-7 | Kingsland Ltd-SERIES 18-8A CLASS A | 1 | 45,954,000 | 45,954,000 |
| 57629*CM1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 30,000,000 | 30,156,060 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 38172X-AG-4 | GOLUB CAPITAL PARTNERS C-SERIES 13-16A CLASS A1R | 1 | 30,000,000 | 30,156,060 |
| 57629*CN9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 14,517,476 | 18,336,430 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | 4,450,110 | G6776M-ZZ-9 | ORANGE GROVE ENERGY, L.P DELAYED DRAW TE | 2 | 14,517,476 | 13,886,320 |
| 57629*CN9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,581,948 | 4,152,656 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 247358-BB-9 | EAIV Delta MSN 15153 | 1 | 4,581,948 | 4,152,656 |
| 57629*CN9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,463,989 | 4,037,687 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 247358-DD-3 | EAIV Delta MSN 15161 | 1 | 4,463,989 | 4,037,687 |
| 57629*CN9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,591,158 | 4,165,012 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 247358-PP-3 | EAIV Delta MSN 15147 | 1 | 4,591,158 | 4,165,012 |
| 57629*CN9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,591,340 | 4,069,695 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 247358-RR-7 | EAIV 2017 Delta MSN 15146 | 1 | 4,591,340 | 4,069,695 |

S105.11

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

| Replication (Synthetic Asset) Transactions | | | | | | | | Components of the Replication (Synthetic Asset) Transactions | | | | | | | |
|--|---|---------------------------------------|-----------------|------------------------------|------------|----------------|---------------|--|------------------------------|-------------|-------------------------|---|---------------------------------------|------------------------------|------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Derivative Instrument(s) Open | | | Cash Instrument(s) Held | | | | |
| Number | Description | NAIC Designation or Other Description | Notional Amount | Book/Adjusted Carrying Value | Fair Value | Effective Date | Maturity Date | Description | Book/Adjusted Carrying Value | Fair Value | CUSIP | Description | NAIC Designation or Other Description | Book/Adjusted Carrying Value | Fair Value |
| 57629*CN9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,463,989 | 4,037,687 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 247358-RW-6 | EAIV Delta MSN 15162 | 1 | 4,463,989 | 4,037,687 |
| 57629*CN9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 47,426,238 | 45,345,412 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 83416T-RR-3 | Arpad Solar Borrower LLC Term Loan | 2 | 47,426,238 | 45,345,412 |
| 57629*CN9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 26,700,000 | 26,708,437 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 29108Q-AY-8 | EMERSON PARK CLO LTD-SERIES 13-1A | 1 | 26,700,000 | 26,708,437 |
| 57629*CN9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 22,500,000 | 21,605,760 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 00FH98-YD-6 | BIF III SAFE HARBOR HOLDINGS LLC ATRIUM CDO CORP-SERIES 9A CLASS AR | 1 | 22,500,000 | 21,605,760 |
| 57629*CP4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 48,000,000 | 52,871,915 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | 4,523,003 | 04964K-AL-5 | TICP CLO LTD-TICP 2014-2A A1AR | 1 | 48,000,000 | 48,348,912 |
| 57629*CP4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 38,550,000 | 38,555,050 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 87247C-AN-3 | CAMERON LNG CONSTRUCTION FA JFIN CLO LTD-SERIES 14-2A CLASS A1AR | 1 | 38,550,000 | 38,555,050 |
| 57629*CP4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 40,791,322 | 41,067,623 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 13345*-AA-5 | RXR Realty, LLC Senior Secured ANCHORAGE CAPITAL CLO LT-SERIES 2016-8A CLASS A1 | 1 | 40,791,322 | 41,067,623 |
| 57629*CO2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 72,000,000 | 76,692,333 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | 4,668,789 | 46617N-AQ-0 | CARLYLE GLOBAL MARKET ST-CGMS 2014-4A BR | 1 | 72,000,000 | 72,023,544 |
| 57629*CO2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 37,400,000 | 39,475,401 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 74992*-AB-1 | EVERSOURCE ENERGY-UNSECURED NOTE MADISON PARK FUNDING LTD-SERIES 2015-16A CLASS A2R | 2 | 37,400,000 | 39,475,401 |
| 57629*CO2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 16,708,897 | 16,537,785 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 03329K-AA-1 | MAGNETITE CLO LTD-SERIES 14-11A CLASS A1R | 1 | 16,708,897 | 16,537,785 |
| 57629*CR0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 13,760,000 | 18,406,060 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | 4,644,491 | 14310U-AQ-2 | VOYA CLO LTD-SERIES 14-4A CLASS BR | 1 | 13,760,000 | 13,761,569 |
| 57629*CR0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,660,000 | 13,669,466 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 05363U-AW-3 | KKR FINANCIAL CLO LTD-SERIES 9 | 1 | 13,660,000 | 13,669,466 |
| 57629*CR0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,660,000 | 13,777,203 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 04964K-AS-0 | ALM LOAN FUNDING-SERIES 15-12A CLASS A1R | 1 | 13,660,000 | 13,777,203 |
| 57629*CR0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,000,000 | 11,824,696 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 67332F-AH-6 | BALLYROCK LTD-BALLY 2014-1A A2R HIGHBRIDGE LOAN MANAGEM-HLM 11A-17 | 2 | 13,000,000 | 11,824,696 |
| 57629*CR0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,000,000 | 10,002,520 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 14310M-AQ-0 | GRIDIRON FDG LLC Term Facility | 1 | 10,000,000 | 10,002,520 |
| 57629*CR0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 30,000,000 | 30,188,220 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 87806L-AC-0 | NORTHSTAR EDUCATION FINA-SERIES 07-1 CLASS B | 1 | 30,000,000 | 30,188,220 |
| 57629*CR0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 20,000,000 | 20,078,140 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 12550Y-AC-8 | BALLYROCK LTD-SERIES 2013-1A CLASS C | 1 | 20,000,000 | 20,078,140 |
| 57629*CR0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,807,734 | 9,756,588 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 035242-AP-1 | ANHEUSER-BUSCH INBEV FIN GTD NT | 2 | 9,807,734 | 9,756,588 |
| 57629*CR0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,797,871 | 1,749,246 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 664397-AK-2 | EVERSOURCE ENERGY-UNSECURED NOTE | 2 | 1,797,871 | 1,749,246 |
| 57629*CS8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 12,740,000 | 17,437,584 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | 4,693,087 | 55818X-AY-9 | MADISON PARK FUNDING LTD-SERIES 2015-16A CLASS A2R | 1 | 12,740,000 | 12,744,497 |
| 57629*CS8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 12,675,000 | 12,677,003 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 55953E-AJ-9 | MAGNETITE CLO LTD-SERIES 14-11A CLASS A1R | 1 | 12,675,000 | 12,677,003 |
| 57629*CS8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 12,240,000 | 12,294,909 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 03766G-AE-2 | APIDOS CLO-SERIES 17-26A CLASS A2 CATSKILL PARK CLO LTD-SERIES 17-1A CLASS A2 | 1 | 12,240,000 | 12,294,909 |
| 57629*CS8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,980,000 | 12,036,773 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 149420-AE-1 | VOYA CLO LTD-SERIES 14-4A CLASS BR | 1 | 11,980,000 | 12,036,773 |
| 57629*CS8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,400,000 | 3,409,265 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 92914R-AS-1 | KKR FINANCIAL CLO LTD-SERIES 9 | 1 | 3,400,000 | 3,409,265 |
| 57629*CS8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 21,100,000 | 21,235,167 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 48250L-AL-3 | ALM LOAN FUNDING-SERIES 15-12A CLASS A1R | 1 | 21,100,000 | 21,235,167 |
| 57629*CS8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 16,900,000 | 16,900,287 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 00164M-DG-5 | BALLYROCK LTD-SERIES 2013-1A CLASS C | 1 | 16,900,000 | 16,900,287 |
| 57629*CS8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 18,100,000 | 18,099,765 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 05873L-AK-2 | BALLYROCK LTD-BALLY 2014-1A A2R HIGHBRIDGE LOAN MANAGEM-HLM 11A-17 | 1 | 18,100,000 | 18,099,765 |
| 57629*CS8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 18,100,000 | 18,187,079 | 11/04/2014 | 11/04/2044 | Interest Rate Swap | | | 40436V-AA-9 | GRIDIRON FDG LLC Term Facility | 1 | 18,100,000 | 18,187,079 |
| 57629*CX7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 150,000,000 | 46,197,115 | 44,418,175 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | (4,011,971) | 39808C-AB-4 | NORTHSTAR EDUCATION FINA-SERIES 07-1 CLASS B | 2 | 46,197,115 | 48,430,146 |
| 57629*CX7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 26,444,913 | 26,170,658 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 66704J-CB-2 | BALLYROCK LTD-SERIES 2013-1A CLASS C | 1 | 26,444,913 | 26,170,658 |
| 57629*CX7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,477,914 | 11,214,482 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 05874P-AE-6 | BALLYROCK LTD-SERIES 2013-1A CLASS C | 1 | 11,477,914 | 11,214,482 |

S105.12

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

| Replication (Synthetic Asset) Transactions | | | | | | | | Components of the Replication (Synthetic Asset) Transactions | | | | | | | |
|--|---|---------------------------------------|-----------------|------------------------------|------------|----------------|---------------|--|------------------------------|-------------|-------------------------|--|---------------------------------------|------------------------------|------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Derivative Instrument(s) Open | | | Cash Instrument(s) Held | | | | |
| Number | Description | NAIC Designation or Other Description | Notional Amount | Book/Adjusted Carrying Value | Fair Value | Effective Date | Maturity Date | Description | Book/Adjusted Carrying Value | Fair Value | CUSIP | Description | NAIC Designation or Other Description | Book/Adjusted Carrying Value | Fair Value |
| 57629*CX7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,950,000 | 10,971,079 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 67590B-AC-4 | OCTAGON INV PARTNERS XVI LTD-SR SECD NT CL B1 | 1 | 10,950,000 | 10,971,079 |
| 57629*CX7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,040,000 | 11,044,118 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 14310V-AM-9 | CARLYLE GLOBAL MARKET ST-CGMS 2014-2A BR | 1 | 11,040,000 | 11,044,118 |
| 57629*CX7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,700,000 | 6,741,419 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 06760B-AC-6 | BABSON QLO LTD-SERIES 17-1A CLASS A2 | 1 | 6,700,000 | 6,741,419 |
| 57629*CX7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,960,000 | 5,004,690 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 55820R-AE-2 | MADISON PARK FUNDING LTD-SERIES 17-25A CLASS B | 1 | 4,960,000 | 5,004,690 |
| 57629*CX7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,550,000 | 3,550,493 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 00162L-CE-5 | ALM LOAN FUNDING-SERIES 15-16A CLASS A2R | 1 | 3,550,000 | 3,550,493 |
| 57629*CX7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,891,351 | 1,890,432 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 46616A-AJ-5 | JFIN CLO 2012 LTD-NOTE CLASS A2B 144A | 1 | 1,891,351 | 1,890,432 |
| 57629*CX7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,067,404 | 10,004,760 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 38137Q-AA-6 | GOLDENTREE LOAN OPPORTUN-SERIES 14-9A CLASS AR | 1 | 10,067,404 | 10,004,760 |
| 57629*CX7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,100,000 | 8,157,939 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 001626-AC-4 | ALM XIX LTD SR SECD NT CL A-2 Benefit Street Partners -BSP 2015-8A A1BR | 1 | 8,100,000 | 8,157,939 |
| 57629*CX7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,425,000 | 6,428,816 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 08180X-AQ-5 | OPC CLO 2016-12 Ltd-SERIES 2016-12A CLASS A2 | 1 | 6,425,000 | 6,428,816 |
| 57629*CX7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,257,739 | 8,224,953 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 67092R-AB-4 | | 1 | 8,257,739 | 8,224,953 |
| 57629*CT6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 150,000,000 | 24,662,500 | 20,320,548 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | (4,304,452) | 144577-TT-0 | Carrix, Inc. Senior Term Loa | 2 | 24,662,500 | 24,625,000 |
| 57629*CT6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 14,470,000 | 14,539,036 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 55820R-AC-6 | MADISON PARK FUNDING LTD-SERIES 17-25A CLASS A2 | 1 | 14,470,000 | 14,539,036 |
| 57629*CT6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,987,628 | 3,879,994 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 49638W-AD-8 | KINGSLAND VI LTD-SECD DEF MEZZ NT CL C 144A | 1 | 3,987,628 | 3,879,994 |
| 57629*CT6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,343,754 | 6,328,488 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 92557W-AE-3 | VIBRANT CLO IV LTD-SR SECD NT CL B 144A | 1 | 6,343,754 | 6,328,488 |
| 57629*CT6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 41,400,000 | 41,472,119 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 74983D-AA-5 | RACE POINT X CLO LTD SR SECD NT CL A | 1 | 41,400,000 | 41,472,119 |
| 57629*CT6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 17,750,000 | 17,758,786 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 94949R-AC-1 | IWELLFLEET CLO 2016-1 LTD-SR SECD NT CL A 144A | 1 | 17,750,000 | 17,758,786 |
| 57629*CT6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 17,557,792 | 17,346,431 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 858102-AD-8 | STEELE CREEK CLO 2016-1 LTD-SR SECD NT CL A-1 144A | 1 | 17,557,792 | 17,346,431 |
| 57629*CT6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,000,000 | 7,002,884 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 05618D-AN-4 | BABSON CLO LTD-BABSON 2014-1A BR DRYDEN XXVI SR LN FD SR SECD NT CL | 1 | 7,000,000 | 7,002,884 |
| 57629*CT6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,281,368 | 3,271,338 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 26250U-AC-9 | A | 1 | 3,281,368 | 3,271,338 |
| 57629*CT6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,750,000 | 13,776,593 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 02014P-AC-8 | ALM XVII LTD-SR SECURED NOTE CLASS A2L | 1 | 13,750,000 | 13,776,593 |
| 57629*CT6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,045,000 | 2,044,986 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 056162-AQ-3 | Babson QLO Ltd 2015-1-BABSON 2015-1A BR | 1 | 2,045,000 | 2,044,986 |
| 57629*CT6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,900,000 | 3,899,906 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 69703P-AE-9 | Palmer Square CLO 2018-1-PLMRS 2018-1A B | 1 | 3,900,000 | 3,899,906 |
| 57629*CI9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 250,000,000 | 36,000,000 | 28,054,002 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | (6,540,378) | 39808C-AA-3 | Gridiron Fdg LLC Sr Secd Nt | 2 | 36,000,000 | 34,594,380 |
| 57629*CI9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 14,000,000 | 14,008,148 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 15136G-AQ-2 | CENT CLO 16 LP NT CL A-2-R | 1 | 14,000,000 | 14,008,148 |
| 57629*CI9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 23,500,000 | 23,508,366 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 05618D-AL-8 | BABSON CLO LTD-BABSON 2014-1A A2R SOUND POINT CLO LTD-SERIES 2017-2A CLASS A | 1 | 23,500,000 | 23,508,366 |
| 57629*CI9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 23,100,000 | 23,223,677 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 83610K-AA-1 | LQM LTD PARTNERSHIP-SERIES 13A CLASS BR | 1 | 23,100,000 | 23,223,677 |
| 57629*CI9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 12,750,000 | 12,843,407 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 50184K-AU-2 | 321 HENDERSON RECEIVABLE-SERIES 05-1A CLASS A1 | 1 | 12,750,000 | 12,843,407 |
| 57629*CI9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 16,894,919 | 16,755,338 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 88576P-AE-3 | BLUEMOUNTAIN CLO LTD-BLUEM 2014-3A ATR | 1 | 16,894,919 | 16,755,338 |
| 57629*CI9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 22,600,000 | 22,603,548 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 09627R-AJ-3 | MERCER FIELD CLO LP-MERCL 2017-1A A2 | 1 | 22,600,000 | 22,603,548 |
| 57629*CI9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 20,000,000 | 20,051,560 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 58806P-AC-2 | | 1 | 20,000,000 | 20,051,560 |
| 57629*CI9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,500,000 | 10,514,889 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 03765D-AS-9 | APIDOS CLO-APID 2014-18A BR | 1 | 10,500,000 | 10,514,889 |

S105.13

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

| Replication (Synthetic Asset) Transactions | | | | | | | | Components of the Replication (Synthetic Asset) Transactions | | | | | | | |
|--|---|---------------------------------------|-----------------|------------------------------|-------------|----------------|---------------|--|------------------------------|--------------|-------------------------|---|---------------------------------------|------------------------------|-------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Derivative Instrument(s) Open | | | Cash Instrument(s) Held | | | | |
| Number | Description | NAIC Designation or Other Description | Notional Amount | Book/Adjusted Carrying Value | Fair Value | Effective Date | Maturity Date | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | | | | | | Description | Book/Adjusted Carrying Value | Fair Value | CUSIP | Description | NAIC Designation or Other Description | Book/Adjusted Carrying Value | Fair Value |
| 57629*CI9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,087,268 | 6,005,694 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 43132W-AE-0 | HILDENE CLO IV LTD-DEF MEZZ NT SER 2015-4A CL B | 1 | 6,087,268 | 6,005,694 |
| 57629*CI9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,950,000 | 5,956,658 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 10302V-BG-9 | BOWMAN PARK CLO LTD-BOWPK 2014-1A CR | 1 | 5,950,000 | 5,956,658 |
| 57629*CI9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,119,948 | 13,105,560 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 87230A-AA-4 | TC1-FLATIRON CLO 2016-1 LTD SR SECD NT CL A | 1 | 13,119,948 | 13,105,560 |
| 57629*CI9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 14,690,000 | 14,692,204 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 817176-AL-4 | SENECA PARK CLO LTD-SPARK 2014-1A AR | 1 | 14,690,000 | 14,692,204 |
| 57629*CI9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,500,000 | 13,535,465 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 38136F-AG-8 | Goldentree Loan Managem-GLM 2017-1A B1 | 1 | 13,500,000 | 13,535,465 |
| 57629*CI9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,800,000 | 10,801,598 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 03764Q-AQ-5 | APIDOS CLO-SERIES 13-15A CLASS A2AR | 1 | 10,800,000 | 10,801,598 |
| 57629*CI9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,250,000 | 8,270,889 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 09628B-AA-6 | BLLEMOUNTAIN CLO 2015-2 LTD SR SECD NT CL A-1 | 1 | 8,250,000 | 8,270,889 |
| 57629*CI9 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,000,000 | 11,000,000 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 12481Q-AE-5 | Obam 2018-5 Ltd-SERIES 18-5A CLASS B1 | 1 | 11,000,000 | 11,000,000 |
| 57629*CU3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 250,000,000 | 328,073,426 | 311,170,162 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | (7,466,568) | 57542Z-AQ-7 | RENT ANCHORAGE CAPITAL CLO LT-SERIES 2015-6A CLASS AR | 1 | 328,073,426 | 318,636,730 |
| 57629*CV1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 200,000,000 | 16,900,000 | 10,665,566 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | (6,363,229) | 03328Q-AN-1 | ALM LOAN FUNDING-SERIES 12-6A CLASS A2RR | 1 | 16,900,000 | 17,028,795 |
| 57629*CV1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 14,300,000 | 14,301,988 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 00163E-BE-1 | GALLATIN CLO LTD-SERIES 17-1A CLASS B | 1 | 14,300,000 | 14,301,988 |
| 57629*CV1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,780,000 | 6,798,808 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 33882G-AB-4 | FLATIRON CLO LTD-FLAT 2017-1A B | 1 | 6,780,000 | 6,798,808 |
| 57629*CV1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,750,000 | 9,774,775 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 36361U-AC-4 | MADISON PARK FDG XX LTD-SECD DEF NT CL C-1 144A | 1 | 9,750,000 | 9,774,775 |
| 57629*CV1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,850,000 | 5,857,617 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 55819T-AG-6 | SOUND POINT CLO X1 LTD-SR SECD NT CL A 144A | 1 | 5,850,000 | 5,857,617 |
| 57629*CV1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 22,220,000 | 22,311,857 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 83609J-AA-7 | BENEFIT STREET PARTNERS -SERIES 2017-12A CLASS A1 | 1 | 22,220,000 | 22,311,857 |
| 57629*CV1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,675,000 | 9,754,654 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 08179H-AA-8 | RR 2 LTD-SERIES 17-2A CLASS A2 | 1 | 9,675,000 | 9,754,654 |
| 57629*CV1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,500,000 | 8,532,096 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 78109Q-AE-8 | OAKTREE CLO LTD-SERIES 14-1A CLASS A1R | 1 | 8,500,000 | 8,532,096 |
| 57629*CV1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 17,120,000 | 17,240,850 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 674000-AN-4 | Carlyle US CLO 2013-3 Re Term Loan | 1 | 17,120,000 | 17,240,850 |
| 57629*CV1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,675,000 | 10,727,308 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 14315J-NN-5 | BALLYROCK LTD-SERIES 2013-1A CLASS B | 1 | 10,675,000 | 10,727,308 |
| 57629*CV1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 16,600,000 | 16,607,005 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 05874P-AC-0 | MASSMUTUAL ASSET FIN LLC SR SECD REV NT | 1 | 16,600,000 | 16,607,005 |
| 57629*CV1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 56,000,000 | 54,389,217 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 57542Z-AQ-7 | AIMCO CLO Series 2015-A-SERIES 15-AA CLASS BR | 1 | 56,000,000 | 54,389,217 |
| 57629*CV1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,400,000 | 6,397,389 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 00900L-AH-7 | MADISON PARK FUNDING LTD-SERIES 14-14A CLASS BR | 1 | 6,400,000 | 6,397,389 |
| 57629*CV1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,570,000 | 13,576,079 | 12/16/2014 | 12/16/2044 | Interest Rate Swap | | | 55818R-AS-5 | LOM LTD PARTNERSHIP-SERIES 16A CLASS BR | 1 | 13,570,000 | 13,576,079 |
| 57629*CV5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 10,100,000 | (4,257,100) | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | (14,358,009) | 50181G-AS-9 | VOYA CLO LTD-VOYA 2014-2A BR | 1 | 10,100,000 | 10,100,909 |
| 57629*CV5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,020,000 | 10,087,495 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 92912V-AS-4 | MANUF & TRADERS TRUST CO-SUBORDINATED NOTE | 1 | 10,020,000 | 10,087,495 |
| 57629*CV5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,503,841 | 10,460,038 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 564759-GB-7 | TC1-CENT CLO 2016-1 LTD-SERIES 17-1A CLASS A2 | 1 | 10,503,841 | 10,460,038 |
| 57629*CV5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,500,000 | 13,578,989 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 87806L-AE-6 | BABSON CLO LTD-SERIES 17-1A CLASS B1 | 1 | 13,500,000 | 13,578,989 |
| 57629*CV5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,500,000 | 13,569,255 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 06760B-AE-2 | GREYWOLF CLO LTD-SERIES 2014-2A CLASS A2R | 1 | 13,500,000 | 13,569,255 |
| 57629*CV5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 12,700,000 | 12,702,324 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 398080-AL-5 | HIGHBRIDGE LOAN MANAGEM-SERIES 2014 CLAS A2R | 1 | 12,700,000 | 12,702,324 |
| 57629*CV5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 12,700,000 | 12,756,972 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 40436X-AE-7 | BAIN CAPITAL CREDIT CLO -SERIES 17-2A CLASS BR | 1 | 12,700,000 | 12,756,972 |
| 57629*CV5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,400,000 | 11,481,635 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 14954W-AN-6 | | 1 | 11,400,000 | 11,481,635 |

S105.14

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

| Replication (Synthetic Asset) Transactions | | | | | | | | Components of the Replication (Synthetic Asset) Transactions | | | | | | | |
|--|---|---------------------------------------|-----------------|------------------------------|-------------|----------------|---------------|--|------------------------------|--------------|-------------------------|--|---------------------------------------|------------------------------|------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Derivative Instrument(s) Open | | | Cash Instrument(s) Held | | | | |
| Number | Description | NAIC Designation or Other Description | Notional Amount | Book/Adjusted Carrying Value | Fair Value | Effective Date | Maturity Date | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | | | | | | Description | Book/Adjusted Carrying Value | Fair Value | CUSIP | Description | NAIC Designation or Other Description | Book/Adjusted Carrying Value | Fair Value |
| 57629*CY5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,200,000 | 11,255,238 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 056820-AC-0 | BAIN CAPITAL CREDIT CLO -SERIES 17-1A CLASS A1 | 1 | 11,200,000 | 11,255,238 |
| 57629*CY5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,200,000 | 10,205,906 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 00162L-CG-0 | ALM LOAN FUNDING-SERIES 15-16A CLASS BR | 1 | 10,200,000 | 10,205,906 |
| 57629*CY5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,300,000 | 11,301,435 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 053633-AH-6 | EVERY POINT CLO LTD-SERIES 13-3A CLASS B1R | 1 | 11,300,000 | 11,301,435 |
| 57629*CY5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,726,941 | 6,642,377 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 00287Y-AL-3 | AbbVie Inc-SENIOR UNSECURED NOTE | 2 | 6,726,941 | 6,642,377 |
| 57629*CY5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,400,000 | 7,400,000 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 55821T-AC-1 | Madison Park Funding Ltd-SERIES 18-30A CLASS B | 1 | 7,400,000 | 7,400,000 |
| 57629*CZ2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 5,280,000 | (9,237,695) | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | (14,555,067) | 00900C-AE-4 | AIMCO-AIMCO 2017-AA C | 1 | 5,280,000 | 5,317,372 |
| 57629*CZ2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 32,330,000 | 32,344,678 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 053633-AG-8 | EVERY POINT CLO LTD-SERIES 13-3A CLASS AR | 1 | 32,330,000 | 32,344,678 |
| 57629*CZ2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 32,100,000 | 32,106,773 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 05363U-AU-7 | EVERY POINT IV CLO LTD-SERIES 14-1A CLASS BR | 1 | 32,100,000 | 32,106,773 |
| 57629*CZ2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 24,404,405 | 24,124,677 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 66704J-AY-4 | NORTHSTAR EDUCATION FINA-SERIES 2004-1 CLASS B1 | 1 | 24,404,405 | 24,124,677 |
| 57629*CZ2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 18,700,000 | 18,704,469 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 05618M-AU-8 | BABSON CLO LTD-BABSON 2014-3A B1R | 1 | 18,700,000 | 18,704,469 |
| 57629*CZ2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,900,000 | 11,902,094 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 44925B-AA-0 | 105 US CLO 2018-1 LTD-SERIES 2018-1A CLASS A1 | 1 | 11,900,000 | 11,902,094 |
| 57629*CZ2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,268,617 | 5,182,076 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 00507U-AS-0 | ACTAVIS FUNDING SCS-SENIOR UNSECURED NOTE | 2 | 5,268,617 | 5,182,076 |
| 57629*CZ2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,507,189 | 10,473,776 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 64131B-AB-9 | 2016-22A CLASS B | 1 | 10,507,189 | 10,473,776 |
| 57629*DA6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 24,425,000 | 10,046,333 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | (14,381,110) | 14315J-TT-6 | Carlyle US CLO 2015-1 Ri Term Loan | 1 | 24,425,000 | 24,427,443 |
| 57629*DA6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 27,200,000 | 27,214,416 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 55818R-AG-9 | MADISON PARK FUNDING LTD-MDPK 2014-14A A1R | 1 | 27,200,000 | 27,214,416 |
| 57629*DA6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,600,000 | 11,599,919 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 04942J-AE-1 | Atlas Senior Loan Fund X-ATCLO 2018-10A B | 1 | 11,600,000 | 11,599,919 |
| 57629*DA6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 18,090,000 | 18,174,155 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 77340E-AC-0 | ROCKFORD TOWER CLO LTD-ROCKT 2017-1A B | 1 | 18,090,000 | 18,174,155 |
| 57629*DA6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,730,000 | 5,748,353 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 64129J-AU-4 | NEUBERGER BERMAN CLO LTD-NEUB 2013-14A B1R | 1 | 5,730,000 | 5,748,353 |
| 57629*DA6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 24,090,000 | 24,092,602 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 92916X-AA-5 | VOYA CLO LTD-INGIM 2013-3A A1R | 1 | 24,090,000 | 24,092,602 |
| 57629*DA6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,300,000 | 4,332,714 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 87248T-AE-5 | TICP CLO LTD-SERIES 2017 CLASS 7A OCP CLO 2017-14 Ltd-SERIES 17-14A CLASS A2 | 1 | 4,300,000 | 4,332,714 |
| 57629*DA6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,400,000 | 11,408,710 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 67097Q-AE-5 | Benefit Street Partners -SERIES 18-14A CLASS A2 | 1 | 11,400,000 | 11,408,710 |
| 57629*DA6 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,400,000 | 13,364,560 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 08179L-AC-5 | BAIN CAPITAL CREDIT CLO -SERIES 2017-2A CLASS AR | 1 | 13,400,000 | 13,364,560 |
| 57629*DB4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 45,000,000 | 30,558,271 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | (14,700,479) | 05683H-AC-9 | Babson CLO Ltd 2013-I-SERIES 2013-1A CLASS AR | 1 | 45,000,000 | 45,258,750 |
| 57629*DB4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,325,000 | 7,397,510 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 06760E-AA-4 | VOYA CLO LTD-SERIES 2017-3A CLASS A2 | 1 | 7,325,000 | 7,397,510 |
| 57629*DB4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,200,000 | 7,276,651 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 92915Q-AG-8 | ALM LOAN FUNDING-SERIES 15-12A CLASS A2AR | 1 | 7,200,000 | 7,276,651 |
| 57629*DB4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,200,000 | 7,222,378 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 00164M-DH-3 | AIMCO-SERIES 14-AA CLASS B1R | 1 | 7,200,000 | 7,222,378 |
| 57629*DB4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,000,000 | 8,000,000 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 00900A-AJ-7 | OCTAGON INV PARTNERS XVI LTD-SR SECD NT CL A | 1 | 8,000,000 | 8,000,000 |
| 57629*DB4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 22,114,929 | 21,978,308 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 67590B-AA-8 | CENT CLO 18 LP-INT SER 2013-18A CL B 144A | 1 | 22,114,929 | 21,978,308 |
| 57629*DB4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,850,000 | 7,851,806 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 15136R-AE-5 | Babson CLO Ltd 2013-I-SERIES 2013-1A CLASS AR | 1 | 7,850,000 | 7,851,806 |
| 57629*DB4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 14,425,000 | 14,424,885 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 06760E-AA-4 | GT LOAN FINANCING LTD-SERIES 2013-1A CLASS B | 1 | 14,425,000 | 14,424,885 |
| 57629*DB4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,490,907 | 7,468,950 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 36248M-AB-3 | | 1 | 7,490,907 | 7,468,950 |

S105.15

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

| Replication (Synthetic Asset) Transactions | | | | | | | | Components of the Replication (Synthetic Asset) Transactions | | | | | | | |
|--|---|---------------------------------------|-----------------|------------------------------|-------------|----------------|---------------|--|------------------------------|-------------|-------------------------|--|---------------------------------------|------------------------------|------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Derivative Instrument(s) Open | | | Cash Instrument(s) Held | | | | |
| Number | Description | NAIC Designation or Other Description | Notional Amount | Book/Adjusted Carrying Value | Fair Value | Effective Date | Maturity Date | Description | Book/Adjusted Carrying Value | Fair Value | CUSIP | Description | NAIC Designation or Other Description | Book/Adjusted Carrying Value | Fair Value |
| 57629*DB4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,800,000 | 3,801,208 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 88432C-AW-6 | WIND RIVER CLO LTD-WINDR 2014-1A CR | 1 | 3,800,000 | 3,801,208 |
| 57629*DB4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 21,134,962 | 25,372,531 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 24820R-AA-6 | Statoil ASA-SENIOR UNSECURED NOTE BLUEMOUNTAIN CLO 2015-1 LTD-SR SEC | 1 | 21,134,962 | 25,372,531 |
| 57629*DB4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,683,784 | 2,701,577 | 02/05/2015 | 02/05/2045 | Interest Rate Swap | | | 09627X-AG-6 | DEF NT CL C | 2 | 2,683,784 | 2,701,577 |
| 57629*DK4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 16,314,219 | 10,586,929 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | (6,502,680) | MXPO01-TT-1 | Rate S | 1 | 16,314,219 | 17,089,609 |
| 57629*DK4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 27,912,772 | 28,754,236 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 78449F-AC-5 | SMB PRIVATE ED LN TR 2016-SMB PRIVATE ED LN TR 2016-A NT | 1 | 27,912,772 | 28,754,236 |
| 57629*DK4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 22,420,000 | 23,399,938 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 63940F-AC-1 | NAVIENT STUDENT LOAN TRU-SERIES 16-2 CLASS A3 | 1 | 22,420,000 | 23,399,938 |
| 57629*DK4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 12,171,785 | 12,332,508 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 26827X-AA-1 | EMC GROUP STUDENT LOAN -SERIES 2016-1A CLASS A | 1 | 12,171,785 | 12,332,508 |
| 57629*DK4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,250,000 | 13,251,603 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 05618L-AG-1 | BABSON CLO LTD-BABSN 2014-1IA BR | 1 | 13,250,000 | 13,251,603 |
| 57629*DK4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,500,000 | 11,529,820 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 92916M-AB-7 | VOYA CLO LTD-VOYA 2017-1A A2 | 1 | 11,500,000 | 11,529,820 |
| 57629*DK4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,000,000 | 11,001,650 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 05618L-AF-3 | BABSON CLO LTD-BABSN 2014-1IA AR ANCHORAGE CAPITAL CLO LT-ANCH | 1 | 11,000,000 | 11,001,650 |
| 57629*DK4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,100,000 | 5,101,326 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 033290-AN-7 | 2012-1A A2R | 1 | 5,100,000 | 5,101,326 |
| 57629*DK4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,330,000 | 4,358,678 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 85816B-CS-7 | STEELE CREEK CLO LTD-SERIES 15-1A CLASS CR | 1 | 4,330,000 | 4,358,678 |
| 57629*DK4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,200,000 | 4,204,133 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 08180X-AU-6 | BA BR Benefit Street Partners -BSP 2015- | 1 | 4,200,000 | 4,204,133 |
| 57629*DK4 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,380,000 | 2,400,009 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 22616C-AE-3 | CRESTLINE DENALI CLO XV -SERIES 17-1A CLASS C | 1 | 2,380,000 | 2,400,009 |
| 57629*DJ7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 10,917,500 | 4,959,335 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | (6,477,057) | MXPO01-TT-1 | Rate S | 1 | 10,917,500 | 11,436,392 |
| 57629*DJ7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 14,365,065 | 14,678,448 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 78442G-PQ-3 | 5 CLASS A4 | 1 | 14,365,065 | 14,678,448 |
| 57629*DJ7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,362,245 | 5,408,238 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 49327H-AG-0 | KEYCORP STUDENT LOAN TRU-SERIES 2006-A CLASS 244 | 1 | 5,362,245 | 5,408,238 |
| 57629*DJ7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,009,017 | 10,121,429 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 64031Q-BR-1 | MELNET STUDENT LOAN TRU-SERIES 2005-1 CLASS A5 | 1 | 10,009,017 | 10,121,429 |
| 57629*DJ7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,945,131 | 12,356,076 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 78448Q-AD-0 | SMB PRIVATE EDUCATION LO-SMB 2015-B A3 | 1 | 11,945,131 | 12,356,076 |
| 57629*DJ7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,706,502 | 11,237,432 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 78442G-RX-6 | SLM STUDENT LN TR 2006-2 LN BKD NT CL A-6 | 1 | 10,706,502 | 11,237,432 |
| 57629*DJ7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,449,366 | 5,499,914 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 78442G-EX-0 | SLM STUDENT LOAN TRU-SERIES 2002-7CLASS A11 | 1 | 5,449,366 | 5,499,914 |
| 57629*DJ7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,833,481 | 11,007,037 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 10620N-AX-6 | BRAZOS HIGHER EDUCATION -SER 2006-2 STUDENT LN REV NT | 1 | 10,833,481 | 11,007,037 |
| 57629*DJ7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,378,360 | 8,550,313 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 64031Q-BX-8 | MELNET STUDENT LOAN TRU-SERIES 2005-2 CLASS A5 | 1 | 8,378,360 | 8,550,313 |
| 57629*DJ7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,762,059 | 10,156,438 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 83715R-AF-9 | SOUTH CAROLINA STUDENT L-SERIES 14-1 CLASS A2 | 1 | 9,762,059 | 10,156,438 |
| 57629*DJ7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,766,506 | 4,782,037 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 00432C-AV-3 | ACCESS GROUP INC-SERIES 2003-A CLASS A3 | 1 | 4,766,506 | 4,782,037 |
| 57629*DJ7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,000,000 | 5,002,060 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 88322U-AN-9 | THACHER PARK CLO-THRPK 2014-1A CR | 1 | 5,000,000 | 5,002,060 |
| 57629*DJ7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,701,762 | 7,786,259 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 640315-AF-4 | MELNET STUDENT LOAN TRU-SERIES 2006-2 CLASS A6 | 1 | 7,701,762 | 7,786,259 |
| 57629*DJ7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,626,289 | 4,626,289 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 77277L-A7-2 | ROCKALL CLO BV Variable Funding Note- USD | 1 | 4,626,289 | 4,626,289 |
| 57629*DJ7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,300,000 | 4,334,344 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 92558A-AA-8 | VIBRANT CLO LTD-SERIES 2016-5A CLASS A | 1 | 4,300,000 | 4,334,344 |
| 57629*DJ7 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,350,000 | 7,357,107 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 12551R-AC-2 | CIFC Funding 2018-I Ltd-SERIES 18-1A CLASS B | 1 | 7,350,000 | 7,357,107 |
| 57629*DH1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 1,985,000 | (4,733,378) | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | (6,812,722) | MXPO01-TT-1 | Rate S | 1 | 1,985,000 | 2,079,344 |

S105.16

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

| Replication (Synthetic Asset) Transactions | | | | | | | | Components of the Replication (Synthetic Asset) Transactions | | | | | | | |
|--|---|---------------------------------------|-----------------|------------------------------|------------|----------------|---------------|--|------------------------------|------------|-------------------------|--|---------------------------------------|------------------------------|------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Derivative Instrument(s) Open | | | Cash Instrument(s) Held | | | | |
| Number | Description | NAIC Designation or Other Description | Notional Amount | Book/Adjusted Carrying Value | Fair Value | Effective Date | Maturity Date | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | | | | | | Description | Book/Adjusted Carrying Value | Fair Value | CUSIP | Description | NAIC Designation or Other Description | Book/Adjusted Carrying Value | Fair Value |
| 57629*DH1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 65,300,000 | 67,869,816 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 63940L-AC-8 | NAVIENT STUDENT LOAN TRU-SERIES 2016-6A CLASS A3 | 1 | 65,300,000 | 67,869,816 |
| 57629*DH1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 22,980,672 | 23,851,772 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 61205P-AL-3 | MONTANA HIGHER EDUCATION-SERIES 12-1 CLASS A3 | 1 | 22,980,672 | 23,851,772 |
| 57629*DH1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 17,765,156 | 18,404,962 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 784419-AF-0 | SLC STUDENT LOAN TRUST-SERIES 2006-A CLASS B | 1 | 17,765,156 | 18,404,962 |
| 57629*DH1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 892,933 | 901,176 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 78442G-EW-2 | SLM STUDENT LOAN TRUST-SERIES 2002-7 CLASS A10 | 1 | 892,933 | 901,176 |
| 57629*DH1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,802,813 | 1,773,829 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 429827-AK-4 | HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS A10 | 1 | 1,802,813 | 1,773,829 |
| 57629*DH1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 54,236 | 54,236 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 784419-AE-3 | SLC STUDENT LOAN TRUST-SERIES 2006-A CLASS A5 | 1 | 54,236 | 54,236 |
| 57629*DH1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,170,546 | 1,174,436 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 429827-AP-3 | HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS A14 | 1 | 1,170,546 | 1,174,436 |
| 57629*DH1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,075,679 | 1,106,445 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 429827-AB-4 | HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS A2 | 1 | 1,075,679 | 1,106,445 |
| 57629*DH1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,855,930 | 1,900,931 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 83715A-AJ-8 | SOUTH CAROLINA STUDENT L-SR UNSECURED | 1 | 1,855,930 | 1,900,931 |
| 57629*DH1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,644,099 | 1,764,298 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 784427-AF-3 | SLC STUDENT LN TR 2006-1 ASSET BK NT CL A-6 | 1 | 1,644,099 | 1,764,298 |
| 57629*DH1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,681,942 | 1,592,792 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 640330-AC-3 | MELNET STUDENT LOAN TRUS-SERIES 2015-2A CLASS B | 1 | 1,681,942 | 1,592,792 |
| 57629*DH1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,858,437 | 1,887,876 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 462590-JT-8 | IOWA STUDENT LOAN LIQUID-SERIES 2012-1 CLASS B | 1 | 1,858,437 | 1,887,876 |
| 57629*DH1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,430,342 | 1,423,088 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 709163-GJ-2 | PENNSYLVANIA ST HGR EDU -SERIES 2006 CL B | 1 | 1,430,342 | 1,423,088 |
| 57629*DH1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,167,701 | 1,230,131 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 17284L-AB-0 | CIT EDUCATION LOAN TRUST-SERIES 2007-1 CLASS B | 1 | 1,167,701 | 1,230,131 |
| 57629*DH1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,333,221 | 1,346,495 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 78448C-AH-2 | SLM STUDENT LOAN TRUST-SERIES 2013-6 CLASS B | 1 | 1,333,221 | 1,346,495 |
| 57629*DH1 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,000,000 | 3,999,968 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 05616Z-AS-9 | Babson CLO Ltd 2015-1-BABSN 2015-1A CR | 1 | 4,000,000 | 3,999,968 |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 13,646,875 | 7,485,330 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | (6,810,160) | | MXP001-TT-1 | Grupo Aeromexico S.A.B. Floating Rate S | 1 | 13,646,875 | 14,295,490 |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,257,222 | 6,601,642 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 78448R-AD-8 | SMB PRIVATE ED LN TR 2015-C LN BCK NT CL A-3 | 1 | 6,257,222 | 6,601,642 |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,466,352 | 5,754,934 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 78448P-AD-2 | SMB PRIVATE ED LOAN TR 2015-A LN BACKED NT A-3 | 1 | 5,466,352 | 5,754,934 |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,287,337 | 3,258,062 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 69847R-AB-8 | PANHANDLE-PLAINS TX STUD-SERIES 2001-1 CLASS A2 | 1 | 3,287,337 | 3,258,062 |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,763,583 | 4,799,205 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 19458L-BH-2 | COLLEGIATE FUNDING SERVI-SERIES 2005-B CLASS A4 | 1 | 4,763,583 | 4,799,205 |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,683,386 | 4,774,205 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 78446D-AC-3 | SLM STUDENT LOAN TRUST-SERIES 2011-A CLASS A3 | 1 | 4,683,386 | 4,774,205 |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,797,294 | 3,911,466 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 63939E-AD-6 | NAVIENT STUDENT LOAN TRU-SERIES 2014-1 CLASS A4 | 1 | 3,797,294 | 3,911,466 |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 704,212 | 703,993 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 00432C-CF-6 | ACCESS GROUP INC DEL 2005-1 ASSET BKD CTF CL A-3 | 1 | 704,212 | 703,993 |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 16,170,117 | 16,640,236 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 840555-DA-1 | SOUTH TX HIGHER ED AUTH REV SER 1 CL A-3 | 1 | 16,170,117 | 16,640,236 |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 10,809,303 | 11,164,066 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 00432C-CW-9 | ACCESS GROUP INC-SERIES 2005-B CLASS A3 | 1 | 10,809,303 | 11,164,066 |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,828,593 | 10,344,603 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 28148W-AC-7 | EDUCATIONAL FUNDING OF T-SERIES 2011-1 CLASS B | 1 | 9,828,593 | 10,344,603 |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,214,445 | 9,956,332 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 78444C-AE-3 | SLM STUDENT LOAN TRUST-SERIES 07-6 CLASS A5 | 1 | 9,214,445 | 9,956,332 |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,614,507 | 9,165,527 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 78443F-AF-4 | SLM STUDENT LOAN TRUST-SERIES 2007-5 CLASS A6 | 1 | 8,614,507 | 9,165,527 |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,075,941 | 8,222,921 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 00400V-AB-3 | ACADEMIC LOAN FUNDING TR-ALFT 2012-1A A2 | 1 | 8,075,941 | 8,222,921 |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 833,569 | 925,884 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 46259Z-AD-8 | IOWA STUDENT LOAN LIQUID-SERIES 2005-1 CLASS B | 1 | 833,569 | 925,884 |

S105.17

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

| Replication (Synthetic Asset) Transactions | | | | | | | | Components of the Replication (Synthetic Asset) Transactions | | | | | | | |
|--|---|---------------------------------------|-----------------|------------------------------|------------|----------------|---------------|--|------------------------------|-------------|-------------------------|---|---------------------------------------|------------------------------|------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Derivative Instrument(s) Open | | | Cash Instrument(s) Held | | | | |
| Number | Description | NAIC Designation or Other Description | Notional Amount | Book/Adjusted Carrying Value | Fair Value | Effective Date | Maturity Date | Description | Book/Adjusted Carrying Value | Fair Value | CUSIP | Description | NAIC Designation or Other Description | Book/Adjusted Carrying Value | Fair Value |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,025,321 | 9,182,162 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 78442G-QA-7 | SLM STUDENT LOAN TRUST-SERIES 2005-6 CLASS B | 1 | 9,025,321 | 9,182,162 |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,643,588 | 1,752,425 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 38021F-AB-7 | GOAL CAPITAL FUNDING TRU-SERIES 2015-1 CLASS B | 1 | 1,643,588 | 1,752,425 |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,661,492 | 1,697,327 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 28138J-AB-0 | EDUCATIONAL SERVICES OF -SERIES 15-2 CLASS B | 1 | 1,661,492 | 1,697,327 |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,339,862 | 1,371,811 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 78442G-GM-2 | SLM STUDENT LOAN TRUST 2003-4 LN BKD CTF CL B | 1 | 1,339,862 | 1,371,811 |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,346,236 | 1,365,509 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 28090A-AB-5 | EDUCATIONAL SERVICES OF -2014-4 SERIES B | 1 | 1,346,236 | 1,365,509 |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 689,068 | 696,688 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 83401L-AA-2 | SOCIAL PROFESSIONAL LOAN-SERIES 2015-A CLASS A1 | 1 | 689,068 | 696,688 |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,805,828 | 1,751,964 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 49638W-AE-6 | KINGSLAND LTD-SERIES 2013-6A CLASS C | 1 | 1,805,828 | 1,751,964 |
| 57629*DG3 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,400,000 | 4,404,180 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 39729R-AC-2 | Greenwood Park CLO Ltd-SERIES 18-1A CLASS B | 1 | 4,400,000 | 4,404,180 |
| 57629*DF5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 7,493,318 | (803,336) | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | (8,089,961) | 281397-AP-4 | EDUCATION LOAN ASSET-BAC-SERIES 2003-2 CLASS 2A1 | 1 | 7,493,318 | 7,286,625 |
| 57629*DF5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 11,910,000 | 12,476,064 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | MXP001-TT-1 | Grupo Aeromexico S.A.B. Floating Rate S | 1 | 11,910,000 | 12,476,064 |
| 57629*DF5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,255,505 | 5,358,027 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 66705R-AA-7 | NORTHSTAR EDUCATION FINA-NEF 2016-1 A | 1 | 5,255,505 | 5,358,027 |
| 57629*DF5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,635,054 | 6,831,990 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 281397-AB-5 | EDUCATION LOAN ASSET-BAC-SERIES 2003-1 CLASS A2 | 1 | 6,635,054 | 6,831,990 |
| 57629*DF5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,106,698 | 5,627,368 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 64031Q-QK-5 | NELNET STUDENT LOAN TRUS-SERIES 2005-4 CLASS A4R1 | 1 | 5,106,698 | 5,627,368 |
| 57629*DF5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,754,645 | 5,009,621 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 78443G-AG-0 | SLM STUDENT LOAN TRUST-SERIES 2006-7 CLASS A6B | 1 | 4,754,645 | 5,009,621 |
| 57629*DF5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,142,408 | 4,677,462 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 106238-LJ-5 | BRAZOS TX HGR EDU AUTH REVENUE BOND | 1 | 4,142,408 | 4,677,462 |
| 57629*DF5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,457,733 | 5,883,258 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 28108Q-AB-0 | EDLINC STUDENT LOAN FUND-SERIES 2012-1 CLASS B | 1 | 5,457,733 | 5,883,258 |
| 57629*DF5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,450,000 | 4,268,651 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 281397-AQ-2 | EDUCATION LOAN ASSET-BAC-SERIES 2003-2 CLASS 2A2 | 1 | 4,450,000 | 4,268,651 |
| 57629*DF5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,123,982 | 3,223,835 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 38021E-AA-2 | GOAL CAPITAL FUNDING TR 2010-1 STUDENT LN BKD NT | 1 | 3,123,982 | 3,223,835 |
| 57629*DF5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,648,498 | 4,146,482 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 64031Q-QM-1 | NELNET STUDENT LOAN TRUS-SERIES 2005-4 CLASS A4R2 | 1 | 3,648,498 | 4,146,482 |
| 57629*DF5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,725,364 | 3,772,032 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 65826Z-GD-6 | NORTH CAROLINA STATE EDU-SERIES 2011-2 CLASS A3 | 1 | 3,725,364 | 3,772,032 |
| 57629*DF5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,885,299 | 1,929,354 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 78442G-KW-5 | SLM STUDENT LOAN TRUST-SERIES 2004-1 CLASS A6 | 1 | 1,885,299 | 1,929,354 |
| 57629*DF5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 14,508,848 | 15,113,638 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 83149E-AG-2 | SLM STUDENT LN TR 2006-5-NOTE CL B | 1 | 14,508,848 | 15,113,638 |
| 57629*DF5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,837,430 | 10,057,128 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 784419-AG-8 | SLC STUDENT LOAN TRUST-SERIES 2006-A CLASS C | 1 | 9,837,430 | 10,057,128 |
| 57629*DF5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,108,507 | 6,345,508 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 23341K-AA-3 | DRB PRIME STUDENT LOAN T-SERIES 2015-D CLASS A1 | 1 | 6,108,507 | 6,345,508 |
| 57629*DF5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,712,746 | 8,699,532 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 64031C-AB-8 | NELNET STUDENT LOAN TRUS-SERIES 2012-2A CLASS B | 1 | 8,712,746 | 8,699,532 |
| 57629*DF5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,836,550 | 14,150,573 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 78442G-PS-9 | SLM STUDENT LOAN TRUST-SERIES 2005-5 CLASS B | 1 | 13,836,550 | 14,150,573 |
| 57629*DF5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,900,000 | 3,917,035 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 87244A-BC-3 | WIND RIVER CLO LTD-SERIES 12-1A CLASS BR | 1 | 3,900,000 | 3,917,035 |
| 57629*DF5 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,000,000 | 7,999,720 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 03328T-AS-4 | ANCHORAGE CAPITAL CLO 7 -ANCHC 2015-7A B1R | 1 | 8,000,000 | 7,999,720 |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 10,917,500 | 3,628,306 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | (7,808,086) | MXP001-TT-1 | Grupo Aeromexico S.A.B. Floating Rate S | 1 | 10,917,500 | 11,436,392 |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,336,462 | 9,640,810 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | 83715R-AG-7 | SOUTH CAROLINA STUDENT L-SERIES 2014-1 CLASS B | 1 | 9,336,462 | 9,640,810 |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,256,547 | 7,026,961 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 78442Q-AE-1 | SLC STUDENT LOAN TRUST-SERIES 2005-1 CLASS B | 1 | 6,256,547 | 7,026,961 |

S105.18

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

| Replication (Synthetic Asset) Transactions | | | | | | | | Components of the Replication (Synthetic Asset) Transactions | | | | | | | | |
|--|---|--|----------------------|-----------------------------------|-----------------|---------------------|--------------------|--|------------------------------------|------------------|-------------------------|-------------------|--|------------------------------------|------------------|------------|
| 1 Number | 2 Description | 3 NAIC Designation or Other Description | 4 Notional Amount | 5 Book/Adjusted Carrying Value | 6 Fair Value | 7 Effective Date | 8 Maturity Date | Derivative Instrument(s) Open | | | Cash Instrument(s) Held | | | | | |
| | | | | | | | | 9 Description | 10 Book/Adjusted Carrying Value | 11 Fair Value | 12 CUSIP | 13 Description | 14 NAIC Designation or Other Description | 15 Book/Adjusted Carrying Value | 16 Fair Value | |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,898,335 | 6,185,789 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 78442G-0T-6 | SLM STUDENT LOAN TRUST-SERIES 2005-8 CLASS B | 1 | 5,898,335 | 6,185,789 |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,975,474 | 5,975,259 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 78442G-PD-2 | SLM STUDENT LOAN TRUST-SERIES 2005-3 CLASS B | 1 | 5,735,474 | 5,975,259 |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,182,719 | 4,657,969 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 493268-AU-0 | KEYCORP STUDENT LOAN TRU-SERIES 1999-B CLASS CTFS | 1 | 4,182,719 | 4,657,969 |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,608,364 | 6,570,116 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 78446C-AB-7 | SLM STUDENT LOAN TRUST-SERIES 2013-2 CLASS B | 1 | 6,608,364 | 6,570,116 |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,955,000 | 6,563,605 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 63939E-AE-4 | NAVIENT STUDENT LOAN TRU-SERIES 2014-1 CLASS B | 1 | 6,955,000 | 6,563,605 |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,562,984 | 5,470,439 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 64031A-AJ-5 | NELNET STUDENT LOAN TRUS-SERIES 2006-3 CLASS B | 1 | 5,562,984 | 5,470,439 |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,148,562 | 6,825,883 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 63939L-AC-1 | NAVIENT STUDENT LOAN TRU-SERIES 2015-3 CLASS B | 1 | 6,148,562 | 6,825,883 |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,500,000 | 6,656,460 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 78447M-AD-0 | SLM STUDENT LOAN TRUST-SERIES 2013-1 CLASS B | 1 | 6,500,000 | 6,656,460 |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,342,359 | 5,597,301 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 64033J-AB-1 | NELNET STUDENT LOAN TRUS-SERIES 2014-1A CLASS B | 1 | 5,342,359 | 5,597,301 |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,916,400 | 3,993,665 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 19426E-AE-2 | COLLEGE LOAN CORPORATION-SERIES 2005-2 CLASS B | 1 | 3,916,400 | 3,993,665 |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,443,403 | 4,652,629 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 64033N-AB-2 | NELNET STUDENT LOAN TRUS-SERIES 2014-5A CLASS B | 1 | 4,443,403 | 4,652,629 |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,607,581 | 3,702,450 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 19426E-CF-6 | COLLEGE LOAN CORPORATION-SERIES 2004-1 CLASS B | 1 | 3,607,581 | 3,702,450 |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,916,141 | 3,073,004 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 78442G-LJ-3 | SLM STUDENT LOAN TRUST-SERIES 2004-3 CLASS B | 1 | 2,916,141 | 3,073,004 |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,650,000 | 3,455,521 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 64032A-AB-1 | NELNET STUDENT LOAN TRUS-SERIES 2012-1A CLASS B | 1 | 3,650,000 | 3,455,521 |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,008,475 | 3,257,527 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 64032F-AH-7 | NELNET STUDENT LOAN TRUS-SERIES 2007-2A CLASS A4A2 | 1 | 3,008,475 | 3,257,527 |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,164,159 | 2,940,508 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 64033L-AD-2 | NELNET STUDENT LOAN TRUS-SERIES 2014-2A CLASS B | 1 | 3,164,159 | 2,940,508 |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,240,000 | 3,178,697 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 64033K-AB-8 | NELNET STUDENT LOAN TRUS-SERIES 2014-3A CLASS B | 1 | 3,240,000 | 3,178,697 |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 14,400,000 | 14,405,832 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 04015B-AL-4 | ARES CLO LTD-ARES 2014-31A A2R | 1 | 14,400,000 | 14,405,832 |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,500,000 | 2,521,913 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 94949L-AE-0 | WELLFLEET CLO LTD-WELF 2016-2A B .. Ares XXXVIII CLO Ltd-SERIES 15-38A CLASS BR | 1 | 2,500,000 | 2,521,913 |
| 57629*DE8 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,700,000 | 6,700,000 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 04015U-AJ-7 | ATRIUM CDO CORP-SERIES 8A CLASS BR | 1 | 6,700,000 | 6,700,000 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 8,900,000 | 750,647 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | (8,179,649) | | 04964H-AN-8 | Grupo Aeromexico S.A.B. Floating Rate S | 1 | 8,900,000 | 8,930,296 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 992,500 | 1,039,672 | 12/05/2016 | 12/05/2046 | Interest Rate Swap | | | | MXP001-TT-1 | TICP CLO LTD-SERIES 2016-6A CLASS B | 1 | 992,500 | 1,039,672 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,900,000 | 8,943,076 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 87246M-AB-8 | ATLAS SENIOR LOAN FUND L-ATCLO 2016-7A B1 | 1 | 8,900,000 | 8,943,076 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,850,000 | 8,888,506 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 04941T-AE-0 | CARLYLE GLOBAL MARKET ST-SERIES 2012-4A CLASS BR | 1 | 8,850,000 | 8,888,506 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,850,000 | 8,893,161 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 14309Y-AQ-7 | APIDOS CLO-SERIES 2014-17A CLASS A2R | 1 | 8,850,000 | 8,893,161 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,850,000 | 8,852,460 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 03764X-AJ-6 | BARINGS CLO LTD-BABS N 2016-3A A2 .. SEVEN STICKS CLO LTD-SR SEC2 NT CL A-2 144A | 1 | 8,850,000 | 8,852,460 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,500,000 | 7,526,760 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 06759Y-AC-9 | Babson CLO Ltd 2015-I-BABS N 2015-IA AR | 1 | 7,500,000 | 7,526,760 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,370,000 | 7,388,690 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 81789G-AC-5 | BALLYROCK LTD-SERIES 14-1A CLASS A1R | 1 | 7,370,000 | 7,388,690 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 12,575,000 | 12,574,937 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 05616Z-AN-0 | SLM STUDENT LOAN TRUST-SERIES 2013-4 CLASS B | 1 | 12,575,000 | 12,574,937 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 5,420,000 | 5,421,008 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 05873L-AJ-5 | | 1 | 5,420,000 | 5,421,008 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,200,000 | 3,199,998 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | | 78448A-AD-5 | | 1 | 3,200,000 | 3,199,998 |

S105.19

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

| Replication (Synthetic Asset) Transactions | | | | | | | | Components of the Replication (Synthetic Asset) Transactions | | | | | | | |
|--|--|---------------------------------------|-----------------|------------------------------|-------------|----------------|---------------|--|------------------------------|-------------|-------------------------|---|---------------------------------------|------------------------------|------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Derivative Instrument(s) Open | | | Cash Instrument(s) Held | | | | |
| Number | Description | NAIC Designation or Other Description | Notional Amount | Book/Adjusted Carrying Value | Fair Value | Effective Date | Maturity Date | Description | Book/Adjusted Carrying Value | Fair Value | CUSIP | Description | NAIC Designation or Other Description | Book/Adjusted Carrying Value | Fair Value |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,871,612 | 2,088,714 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 00432C-DE-8 | ACCESS GROUP INC-SERIES 2006-1 CLASS B | 1 | 1,871,612 | 2,088,714 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,467,835 | 2,490,629 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 78442G-KN-5 | SLM STUDENT LOAN TRUST-SERIES 2003- 14 CLASS A6 | 1 | 2,467,835 | 2,490,629 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,850,716 | 1,816,123 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 49326B-BW-5 | KEYCORP STUDENT LOAN TRU-SERIES 2004-A CLASS 1B | 1 | 1,850,716 | 1,816,123 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,987,411 | 2,153,062 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 429827-AR-9 | HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS B1 | 1 | 1,987,411 | 2,153,062 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,013,037 | 2,141,944 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 429827-AS-7 | HIGHER EDUCATION FUNDING-SERIES 2004-1 CLASS B2 | 1 | 2,013,037 | 2,141,944 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,930,373 | 1,972,475 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 64033T-AB-9 | MELNET STUDENT LOAN TRUS-SERIES 2015-3A CLASS B | 1 | 1,930,373 | 1,972,475 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,653,910 | 1,661,932 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 19458L-BD-1 | COLLEGIATE FUNDING SERVI-SERIES 2005-A CLASS B | 1 | 1,653,910 | 1,661,932 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,870,379 | 1,960,907 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 00435T-AB-7 | ACCESS GROUP INC-SERIES 2015-1 CLASS B | 1 | 1,870,379 | 1,960,907 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,943,011 | 3,001,434 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 78442G-RY-4 | SLM STUDENT LOAN TRUST-SERIES 2006- 2 CLASS B | 1 | 2,943,011 | 3,001,434 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,177,999 | 2,990,810 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 194267-AN-2 | COLLEGE LOAN CORPORATION-SERIES 2007-1 CLASS B2 | 1 | 3,177,999 | 2,990,810 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,708,423 | 2,586,684 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 92978J-AH-6 | MACHOVIA STUDENT LOAN TR-SERIES 2006-1 CLASS B | 1 | 2,708,423 | 2,586,684 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,255,989 | 2,367,327 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 83715R-AH-5 | SOUTH CAROLINA STUDENT L-SERIES 15- A CLASS A | 1 | 2,255,989 | 2,367,327 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,474,083 | 2,439,918 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 28137T-AB-9 | EDUCATIONAL SERVICES OF -SERIES 2014-2 CLASS B | 1 | 2,474,083 | 2,439,918 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,009,752 | 2,092,851 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 78443B-AK-2 | SLM STUDENT LOAN TRUST-SERIES 2006- 10 CLASS B | 1 | 2,009,752 | 2,092,851 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,380,635 | 2,302,954 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 69340Q-AB-2 | PENNSYLVANIA HIGHER EDUC-SERIES 2015-1A CLASS B | 1 | 2,380,635 | 2,302,954 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,144,703 | 2,247,304 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 28137B-AB-5 | EDUCATIONAL SERVICES OF -SERIES 2015-1 CLASS B | 1 | 2,144,703 | 2,247,304 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 1,619,266 | 1,723,204 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 00432C-AR-2 | ACCESS GROUP-STUDENT LN REVENUE NT NAVIENT STUDENT LOAN TRUST 2014-8 | 1 | 1,619,266 | 1,723,204 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 4,532,829 | 4,542,866 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 63939D-AD-7 | CL B Palmer Square CLO 2014-1-SERIES | 1 | 4,532,829 | 4,542,866 |
| 57629*DD0 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 9,900,000 | 9,917,335 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 69688X-AU-5 | 2014-1A CLASS A2PR BLUEMOUNTAIN CLO 2014-1 LTD SR SEC | 1 | 9,900,000 | 9,917,335 |
| 57629*DC2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | 125,000,000 | 3,968,111 | (4,169,500) | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | (8,174,524) | 09627L-AJ-6 | DEF NT CL D | 1 | 3,968,111 | 4,005,024 |
| 57629*DC2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 3,987,328 | 4,019,084 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 87165V-AE-9 | SYMPHONY CLO LTD-SYMP 2015-16A D MAGNETITE CLO LTD-MAGNE 2015-15A D | 2 | 3,987,328 | 4,019,084 |
| 57629*DC2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,750,000 | 2,752,995 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 55953M-AG-7 | LOM XVIII LTD PARTNERSHIP-DEF MEZZ NT CL D 144A | 2 | 2,750,000 | 2,752,995 |
| 57629*DC2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,788,377 | 2,752,445 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 50188G-AN-3 | Magnetite VII Ltd-MAGNE 2012-7A | 2 | 2,788,377 | 2,752,445 |
| 57629*DC2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,790,000 | 8,782,950 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 55951P-BC-0 | A2R2 HIGHRIDGE LOAN MANAGEME-HLM 11A-17 | 1 | 8,790,000 | 8,782,950 |
| 57629*DC2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 13,560,000 | 13,589,371 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 40436V-AB-7 | B TCI-FLATIRON CLO LTD-TFLAT 2016-1A | 1 | 13,560,000 | 13,589,371 |
| 57629*DC2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,021,499 | 2,027,808 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 87230A-AD-8 | D | 3 | 2,021,499 | 2,027,808 |
| 57629*DC2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 8,200,000 | 8,237,630 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 04964H-AQ-1 | TRIUMPH VIII-DEF NT CL C-R | 1 | 8,200,000 | 8,237,630 |
| 57629*DC2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 7,516,250 | 7,563,911 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 06759Y-AE-5 | BARINGS CLO LTD-BABSN 2016-3A B LOM LTD PARTNERSHIP-SERIES 25A | 1 | 7,516,250 | 7,563,911 |
| 57629*DC2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 2,500,000 | 2,524,215 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 50189P-AN-2 | CLASS C2 WIND RIVER CLO LTD-WINDR 2012-1A CR | 1 | 2,500,000 | 2,524,215 |
| 57629*DC2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,768,896 | 6,806,948 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 87244A-BE-9 | CARLYLE GLOBAL MARKET ST-SERIES 2012-4A CLASS C1R | 1 | 6,768,896 | 6,806,948 |
| 57629*DC2 | Evergreen Basket of Long Fixed Rate ABS Bank Loans and Corp Bonds | 1 | | 6,700,000 | 6,760,990 | 12/06/2016 | 12/06/2046 | Interest Rate Swap | | | 14309Y-AY-0 | | 1 | 6,700,000 | 6,760,990 |

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

| Replication (Synthetic Asset) Transactions | | | | | | | | Components of the Replication (Synthetic Asset) Transactions | | | | | | | |
|--|---|---------------------------------------|-----------------|------------------------------|------------|----------------|---------------|--|------------------------------|--------------|-------------------------|---|---------------------------------------|------------------------------|------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Derivative Instrument(s) Open | | | Cash Instrument(s) Held | | | | |
| Number | Description | NAIC Designation or Other Description | Notional Amount | Book/Adjusted Carrying Value | Fair Value | Effective Date | Maturity Date | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | | | | | | Description | Book/Adjusted Carrying Value | Fair Value | CUSIP | Description | NAIC Designation or Other Description | Book/Adjusted Carrying Value | Fair Value |
| 57629* DMO | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 1 | | 28,659,848 | 33,475,497 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 055450-AH-3 | BHP Billiton Finance USA-DEBENTURE | 1 | 28,659,848 | 33,475,497 |
| 57629* DMO | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 1 | | 31,144,713 | 30,351,358 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 125720-AG-0 | OME GROUP INC-SR UNSECURED | 1 | 31,144,713 | 30,351,358 |
| 57629* DMO | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 1 | | 19,644,748 | 19,845,945 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 29364N-AS-7 | ENTERGY MISSISSIPPI INC-SECURED NOTE | 1 | 19,644,748 | 19,845,945 |
| 57629* DMO | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 1 | | 20,663,773 | 21,220,915 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 29365T-AA-2 | ENTERGY TEXAS INC-NOTE | 1 | 20,663,773 | 21,220,915 |
| 57629* DMO | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 1 | | 25,739,015 | 30,745,654 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 313747-AF-4 | FEDERAL REALTY INVESTMENT-NOTE REID | 1 | 25,739,015 | 30,745,654 |
| 57629* DMO | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 1 | | 20,831,959 | 20,943,053 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 375558-AW-3 | GILEAD SCIENCES INC-SENIOR UNSECURED NOTE | 1 | 20,831,959 | 20,943,053 |
| 57629* DMO | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 1 | | 19,913,749 | 19,943,480 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 384780-AA-0 | GRAIN SPECTRUM FUND II-SECURED NOTE | 1 | 19,913,749 | 19,943,480 |
| 57629* DMO | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 1 | | 28,493,708 | 28,144,463 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 75972Y-AA-9 | RENAISSANCE FINANCE-SR UNSECURED | 1 | 28,493,708 | 28,144,463 |
| 57629* DMO | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 1 | | 25,120,894 | 26,969,803 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 884315-AG-7 | THOMAS & BETTS CORP-NOTE | 1 | 25,120,894 | 26,969,803 |
| 57629* DMO | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 1 | | 19,086,960 | 19,340,554 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 958587-BJ-5 | WEST MASS ELECTRIC CO-SENIOR UNSECURED NOTE | 1 | 19,086,960 | 19,340,554 |
| 57629* DMO | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 1 | | 3,200,000 | 3,202,739 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 22615E-AE-0 | Crestline Denali CLO Ltd-SERIES 2018-1A CLASS C | 1 | 3,200,000 | 3,202,739 |
| 57629* DL2 | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | 250,000,000 | 31,692,203 | 9,447,584 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | (21,701,054) | 031162-CJ-7 | AMGEN INC-SENIOR UNSECURED | 2 | 31,692,203 | 31,148,638 |
| 57629* DL2 | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 36,370,786 | 37,215,659 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 44107T-AT-3 | HOST HOTELS & RESORTS LP-SENIOR UNSECURED NOTE | 2 | 36,370,786 | 37,215,659 |
| 57629* DL2 | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 33,312,765 | 33,490,731 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 445658-CD-7 | JB HUNT TRANSPRT SVCS-SENIOR UNSECURED NOTE | 2 | 33,312,765 | 33,490,731 |
| 57629* DL2 | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 35,407,326 | 36,733,174 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 456866-AM-4 | INGERSOLL-RAND CO-DEBENTURE | 2 | 35,407,326 | 36,733,174 |
| 57629* DL2 | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 42,884,206 | 41,724,381 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 664397-AK-2 | EVERSOURCE ENERGY-UNSECURED NOTE | 2 | 42,884,206 | 41,724,381 |
| 57629* DL2 | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 33,043,464 | 32,585,176 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 760759-AP-5 | Republic Services Inc-SENIOR UNSECURED NOTE | 2 | 33,043,464 | 32,585,176 |
| 57629* DL2 | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 37,885,175 | 36,900,162 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 94106L-BA-6 | Waste Management Inc-SR UNSECURED | 2 | 37,885,175 | 36,900,162 |
| 57629* DL2 | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 40,106,244 | 39,931,540 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | A05830-41-6 | SPARC EM SPC PANAMA METR-SECURED | 2 | 40,106,244 | 39,931,540 |
| 57629* DP3 | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | 250,000,000 | 23,400,851 | 1,614,468 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | (21,492,214) | 00287Y-AL-3 | AbbVie Inc-SENIOR UNSECURED NOTE | 2 | 23,400,851 | 23,106,682 |
| 57629* DP3 | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 26,448,956 | 26,014,511 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 00507U-AS-0 | ACTAVIS FUNDING SCS-SENIOR UNSECURED NOTE | 2 | 26,448,956 | 26,014,511 |
| 57629* DP3 | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 28,279,051 | 28,131,577 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 035242-AP-1 | ANHEUSER-BUSCH INBEV FIN GTD NT | 2 | 28,279,051 | 28,131,577 |
| 57629* DP3 | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 22,885,570 | 22,720,899 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 254709-AM-0 | DISCOVER FINANCIAL SVS-SENIOR UNSECURED | 2 | 22,885,570 | 22,720,899 |
| 57629* DP3 | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 25,094,131 | 24,917,805 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 444859-BA-9 | Humana Inc-SENIOR UNSECURED NOTE | 2 | 25,094,131 | 24,917,805 |
| 57629* DP3 | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 23,651,633 | 23,407,411 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 61945C-AA-1 | MOSAIC CO/THE-SENIOR UNSECURED NOTE | 2 | 23,651,633 | 23,407,411 |
| 57629* DP3 | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 24,572,232 | 23,977,162 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 718549-AB-4 | PHILLIPS 66 PARTNERS LP-SENIOR UNSECURED | 2 | 24,572,232 | 23,977,162 |
| 57629* DP3 | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 26,486,443 | 26,335,911 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 756109-AN-4 | REALTY INCOME CORP-SENIOR UNSECURED NOTE REID | 2 | 26,486,443 | 26,335,911 |
| 57629* DP3 | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 26,868,743 | 26,806,685 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 824348-BB-1 | SHERWIN-WILLIAMS CO/THE-SENIOR UNSECURED | 2 | 26,868,743 | 26,806,685 |
| 57629* DP3 | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 27,565,414 | 29,239,558 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 883203-BQ-3 | Textron Inc-NOTE | 2 | 27,565,414 | 29,239,558 |
| 57629* DP3 | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 19,698,456 | 19,425,253 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 760759-AP-5 | Republic Services Inc-SENIOR UNSECURED NOTE | 2 | 19,698,456 | 19,425,253 |
| 57629* DNB | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | 250,000,000 | 22,493,520 | 483,340 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | (21,962,103) | 032095-AC-5 | AMPHENOL CORP-SENIOR UNSECURED NOTE | 2 | 22,493,520 | 22,445,443 |

S105.22

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

| Replication (Synthetic Asset) Transactions | | | | | | | | Components of the Replication (Synthetic Asset) Transactions | | | | | | | |
|--|---|---------------------------------------|-----------------|------------------------------|-------------|----------------|---------------|--|------------------------------|------------|-------------------------|---|---------------------------------------|------------------------------|-------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Derivative Instrument(s) Open | | | Cash Instrument(s) Held | | | | |
| Number | Description | NAIC Designation or Other Description | Notional Amount | Book/Adjusted Carrying Value | Fair Value | Effective Date | Maturity Date | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | | | | | | Description | Book/Adjusted Carrying Value | Fair Value | CUSIP | Description | NAIC Designation or Other Description | Book/Adjusted Carrying Value | Fair Value |
| 57629* DNB | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 22,541,094 | 22,413,004 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 045487-AA-3 | ASSOC BANC-CORP-SR UNSECURED | 2 | 22,541,094 | 22,413,004 |
| 57629* DNB | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 21,861,818 | 21,531,385 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 378272-AL-2 | GLENCORE FUNDING LLC-SR UNSECURED | 2 | 21,861,818 | 21,531,385 |
| 57629* DNB | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 22,874,668 | 22,914,397 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 45167R-AF-1 | IDEX Corp-SENIOR UNSECURED NOTE KERRY GROUP FIN SERVICES-SENIOR UNSECURED | 2 | 22,874,668 | 22,914,397 |
| 57629* DNB | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 21,093,879 | 20,861,739 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 49245P-AA-4 | UNSECURED NOTE O'REILLY AUTOMOTIVE INC-SENIOR UNSECURED | 2 | 21,093,879 | 20,861,739 |
| 57629* DNB | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 21,132,693 | 20,507,861 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 67103H-AF-4 | PLUM CREEK TIMBERLANDS-SENIOR UNSECURED NOTE | 2 | 21,132,693 | 20,507,861 |
| 57629* DNB | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 21,017,375 | 20,876,576 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 72925P-AD-7 | Reinsurance Group of Ame-SENIOR UNSECURED NOTE | 2 | 21,017,375 | 20,876,576 |
| 57629* DNB | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 23,934,566 | 23,936,834 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 759351-AG-4 | UNSECURED NOTE SCHLUMBERGER HLDGS CORP-SR UNSECURED | 2 | 23,934,566 | 23,936,834 |
| 57629* DNB | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 22,347,748 | 22,717,011 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 806851-AG-6 | UNSECURED NOTE WPP FINANCE 2010-SENIOR UNSECURED | 2 | 22,347,748 | 22,717,011 |
| 57629* DNB | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 21,798,997 | 23,022,744 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 92936M-AB-3 | NOTE WYNDHAM WORLDWIDE CORP-SENIOR UNSECURED NOTE | 2 | 21,798,997 | 23,022,744 |
| 57629* DNB | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 21,972,646 | 20,942,157 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 98310W-AL-2 | UNSECURED NOTE Zimmer Biomet Holdings I-SR UNSECURED | 2 | 21,972,646 | 20,942,157 |
| 57629* DNB | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 21,113,678 | 20,522,674 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | 98956P-AF-9 | UNSECURED NOTE ISRAEL ELECTRIC CORP LTD-SECURED | 2 | 21,113,678 | 20,522,674 |
| 57629* DNB | Evergreen Basket of Inverse Floating Rate Corporate Bonds | 2 | | 21,058,987 | 21,852,390 | 09/15/2017 | 09/15/2047 | Interest Rate Swap | | | EK5851-40-8 | NOTE US TREASURY STRIP 0% DUE 05/15/2023 | 2 | 21,058,987 | 21,852,390 |
| Filed with the SVO and awaiting RSAT | Inverse JPY Long Term Bond | 1 | 100,000,000 | 19,301,856 | 21,850,573 | 10/05/2017 | 03/30/2018 | Currency Forward | | | 912833-LN-8 | US TREASURY 3.125% TO 5/15/2019 | 1 | 19,301,856 | 21,850,573 |
| Filed with the SVO and awaiting RSAT | Inverse JPY Long Term Bond | 1 | | 56,079,942 | 57,082,656 | 10/05/2017 | 03/30/2018 | Currency Forward | | | 912828-KQ-2 | US TREASURY 1.625% DUE 3/30/2019 | 1 | 56,079,942 | 57,082,656 |
| Filed with the SVO and awaiting RSAT | Inverse JPY Long Term Bond | 1 | | 31,947,481 | 31,838,750 | 10/05/2017 | 03/30/2018 | Currency Forward | | | 912828-C6-5 | US TREASURY 3.625% DUE 08/15/2019 | 1 | 31,947,481 | 31,838,750 |
| Need to file with SVO | Inverse JPY Long Term Bond | 1 | | 50,000,000 | 51,859,931 | 01/10/2018 | 06/29/2018 | Currency Forward | (2,129,679) | | 912828-LJ-7 | United States Treasury Note/Bond US TREAS N/B-NOTE 3.625% DUE 02/15/2021 | 1 | 53,088,484 | 53,989,610 |
| Need to file with SVO | Inverse JPY Long Term Bond | 1 | | 50,000,000 | 51,974,254 | 01/11/2018 | 06/29/2018 | Currency Forward | (2,015,356) | | 912828-LJ-7 | US TREAS N/B-NOTE 3.625% DUE 08/15/2019 | 1 | 53,088,484 | 53,989,610 |
| Need to file with SVO | Inverse JPY Long Term Bond | 1 | | 25,000,000 | 28,046,746 | 01/24/2018 | 06/29/2018 | Currency Forward | (600,516) | | 912828-LJ-7 | US TREAS N/B-NOTE 3.625% DUE 08/15/2019 | 1 | 28,046,746 | 28,522,813 |
| Need to file with SVO | Inverse JPY Long Term Bond | 1 | | 45,000,000 | 46,076,798 | 02/13/2018 | 06/29/2018 | Currency Forward | (361,929) | | 912828-LJ-7 | US TREAS N/B-NOTE 3.625% DUE 08/15/2019 | 1 | 46,076,798 | 46,858,906 |
| Need to file with SVO | Sovereign Bond of Peru | 1 | | 5,000,000 | 10,897,102 | 12/20/2017 | 06/20/2023 | 5 Yr Credit Default Swap | 45,870 | 44,117 | 912810-PP-5 | UNITED STATES TREASURY 3.00% DUE 11/15/45 | 1 | 10,851,232 | 10,056,250 |
| Need to file with SVO | Sovereign Bond of Mexico | 1 | | 15,000,000 | 17,557,650 | 12/20/2017 | 06/20/2023 | 5 Yr Credit Default Swap | (131,833) | (54,374) | 912833-LL-2 | US TREASURY DUE 2/15/2023 | 1 | 15,626,915 | 17,612,024 |
| Need to file with SVO | Sovereign Bond of Panama | 1 | | 10,000,000 | 13,904,694 | 03/20/2018 | 06/20/2023 | 5 Yr Credit Default Swap | 163,496 | 149,139 | 912810-RF-7 | US TREASURY 1.375% DUE 2/15/2044 | 1 | 13,741,198 | 16,679,455 |
| Need to file with SVO | Sovereign Bond of India | 1 | | 15,000,000 | 16,498,251 | 03/20/2018 | 06/20/2023 | 5 Yr Credit Default Swap | 8,813 | (18,567) | 912810-RF-7 | US TREASURY 1.375% DUE 2/15/2044 | 1 | 16,489,438 | 20,015,347 |
| Need to file with SVO | Sovereign Bond of Columbia | 1 | | 15,000,000 | 18,859,692 | 12/20/2017 | 06/20/2023 | 5 Yr Credit Default Swap | (49,420) | (43,691) | 912810-RF-7 | US TREASURY 1.375% DUE 2/15/2044 | 1 | 15,573,358 | 18,903,383 |
| Need to file with SVO | Sovereign Bond of Russia | 1 | | 10,000,000 | 21,957,730 | 03/20/2018 | 06/20/2023 | 5 Yr Credit Default Swap | (106,878) | (109,121) | 912810-RF-7 | US TREASURY 1.375% DUE 2/15/2044 | 1 | 22,064,608 | 26,782,646 |
| Need to file with SVO | Credit Default Indices (CDIG030/CDX.NA.IG.30) | 2 | | 517,000,000 | 273,596,707 | 03/20/2018 | 06/20/2023 | 5 Yr Credit Default Swap Index | 9,510,383 | 8,504,363 | 912828-PX-2 | US TREASURY N/B Note 3.625% DUE 02/15/2021 | 1 | 264,086,324 | 271,999,531 |
| Need to file with SVO | Credit Default Indices (CDIG030/CDX.NA.IG.30) | 2 | | 244,102,411 | 263,089,486 | 03/20/2018 | 06/20/2023 | 5 Yr Credit Default Swap Index | | | 76116F-AG-2 | RFCSPP PRINCIPAL STRIP US TREASURY N/B Note 3.625% DUE 02/15/2021 | 1 | 244,102,411 | 263,089,486 |
| Need to file with SVO | Credit Default Indices (CDIG030/CDX.NA.IG.30) | 2 | 1,519,000,000 | 695,014,444 | 712,069,933 | 03/20/2018 | 06/20/2023 | 5 Yr Credit Default Swap Index | 27,920,339 | 24,986,706 | 912828-PX-2 | US TREASURY N/B Note 3.625% DUE 02/15/2021 | 1 | 667,094,105 | 687,083,227 |
| Need to file with SVO | Credit Default Indices (CDIG030/CDX.NA.IG.30) | 2 | | 311,620,099 | 335,858,918 | 03/20/2018 | 06/20/2023 | 5 Yr Credit Default Swap Index | | | 76116F-AG-2 | RFCSPP PRINCIPAL STRIP US TREASURY N/B-BOND 4.375% DUE 05/15/2041 | 1 | 311,620,099 | 335,858,918 |
| Need to file with SVO | Credit Default Indices (CDIG030/CDX.NA.IG.30) | 2 | | 257,107,462 | 293,407,451 | 03/20/2018 | 06/20/2023 | 5 Yr Credit Default Swap Index | | | 912810-0Q-4 | US TREASURY N/B-UNSECURED 2.875% DUE 11/15/2046 | 1 | 257,107,462 | 293,407,451 |
| Need to file with SVO | Credit Default Indices (CDIG030/CDX.NA.IG.30) | 2 | | 257,885,157 | 254,982,811 | 03/20/2018 | 06/20/2023 | 5 Yr Credit Default Swap Index | | | 912810-RU-4 | US TREASURY N/B-UNSECURED 2.875% DUE 11/15/2046 | 1 | 257,885,157 | 254,982,811 |

S105.23

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 1

Replication (Synthetic Asset) Transactions Open as of Current Statement Date

| Replication (Synthetic Asset) Transactions | | | | | | | | Components of the Replication (Synthetic Asset) Transactions | | | | | | | |
|--|---|--|----------------------|-----------------------------------|-----------------|---------------------|--------------------|--|------------------------------------|------------------|-------------------------|--|---|------------------------------------|------------------|
| 1 Number | 2 Description | 3 NAIC Designation or Other Description | 4 Notional Amount | 5 Book/Adjusted Carrying Value | 6 Fair Value | 7 Effective Date | 8 Maturity Date | Derivative Instrument(s) Open | | | Cash Instrument(s) Held | | | | |
| | | | | | | | | 9 Description | 10 Book/Adjusted Carrying Value | 11 Fair Value | 12 CUSIP | 13 Description | 14 NAIC Designation or Other Description | 15 Book/Adjusted Carrying Value | 16 Fair Value |
| Need to file with SVO | Credit Default Indices (CDIG030/CDX.NA.IG.30) | 2 | 257,000,000 | 95,118,092 | 97,307,195 | 03/20/2018 | 06/20/2023 | 5 Yr Credit Default Swap Index | 4,746,346 | 4,227,507 | 912828-PX-2 | US TREASURY N/B Note 3.625% DUE 02/15/2021 | 1 | 90,371,746 | 93,079,688 |
| Need to file with SVO | Credit Default Indices (CDIG030/CDX.NA.IG.30) | 2 | | 76,173,802 | 82,098,847 | 03/20/2018 | 06/20/2023 | 5 Yr Credit Default Swap Index | | | 76116F-AG-2 | RFCSF PRINCIPAL STRIP | 1 | 76,173,802 | 82,098,847 |
| Need to file with SVO | Credit Default Indices (CDIG030/CDX.NA.IG.30) | 2 | | 87,212,940 | 110,044,141 | 03/20/2018 | 06/20/2023 | 5 Yr Credit Default Swap Index | | | 912810-QK-7 | US Treasury 3.875% DUE 8/15/2040 | 1 | 87,212,940 | 110,044,141 |
| Need to file with SVO | Credit Default Indices (CDIG030/CDX.NA.IG.30) | 2 | 105,000,000 | 130,415,009 | 163,897,505 | 03/20/2018 | 06/20/2023 | 5 Yr Credit Default Swap Index | 1,890,676 | 1,727,192 | 912810-QK-7 | US Treasury 3.875% DUE 8/15/2040 | 1 | 128,524,333 | 162,170,313 |
| Need to file with SVO | Credit Default Indices (CDIG030/CDX.NA.IG.30) | 2 | 35,000,000 | 64,886,697 | 81,660,887 | 03/20/2018 | 06/20/2023 | 5 Yr Credit Default Swap Index | 624,530 | 575,730 | 912810-QK-7 | US Treasury 3.875% DUE 8/15/2040 | 1 | 64,262,167 | 81,085,157 |
| 9999999 - Totals | | | | 13,396,298,262 | 13,571,325,740 | XXX | XXX | XXX | 44,734,461 | (36,419,308) | XXX | XXX | XXX | 13,351,563,801 | 13,607,745,048 |

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - PART C - SECTION 2

Replication (Synthetic Asset) Transactions Open

| | First Quarter | | Second Quarter | | Third Quarter | | Fourth Quarter | | Year To Date | |
|--|--------------------------------|--|--------------------------------|--|--------------------------------|--|--------------------------------|--|--------------------------------|---|
| | 1 Number of Positions | 2 Total Replication (Synthetic Asset) Transactions Statement Value | 3 Number of Positions | 4 Total Replication (Synthetic Asset) Transactions Statement Value | 5 Number of Positions | 6 Total Replication (Synthetic Asset) Transactions Statement Value | 7 Number of Positions | 8 Total Replication (Synthetic Asset) Transactions Statement Value | 9 Number of Positions | 10 Total Replication (Synthetic Asset) Transactions Statement Value |
| 1. Beginning Inventory | 109 | 11,517,000,000 | | | | | | | 109 | 11,517,000,000 |
| 2. Add: Opened or Acquired Transactions..... | 15 | 2,673,000,000 | | | | | | | 15 | 2,673,000,000 |
| 3. Add: Increases in Replication (Synthetic Asset) Transactions Statement Value..... | XXX | | XXX | | XXX | | XXX | | XXX | |
| 4. Less: Closed or Disposed of Transactions..... | 15 | 1,608,000,000 | | | | | | | 15 | 1,608,000,000 |
| 5. Less: Positions Disposed of for Failing Effectiveness Criteria..... | | | | | | | | | | |
| 6. Less: Decreases in Replication (Synthetic Asset) Transactions Statement Value..... | XXX | | XXX | | XXX | | XXX | | XXX | |
| 7. Ending Inventory | 109 | 12,582,000,000 | | | | | | | 109 | 12,582,000,000 |

STATEMENT AS OF MARCH 31, 2018 OF THE Massachusetts Mutual Life Insurance Company

SCHEDULE DB - VERIFICATION

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

| | Book/Adjusted Carrying Value Check |
|--|------------------------------------|
| 1. Part A, Section 1, Column 14..... | 2,546,599,638 |
| 2. Part B, Section 1, Column 15 plus Part B, Section 1 Footnote - Total Ending Cash Balance..... | ..... |
| 3. Total (Line 1 plus Line 2)..... | 2,546,599,638 |
| 4. Part D, Section 1, Column 5..... | 8,476,231,566 |
| 5. Part D, Section 1, Column 6..... | (5,786,412,616) |
| 6. Total (Line 3 minus Line 4 minus Line 5)..... | (143,219,311) |
| | Fair Value Check |
| 7. Part A, Section 1, Column 16..... | 2,465,829,031 |
| 8. Part B, Section 1, Column 13..... | 142,836,151 |
| 9. Total (Line 7 plus Line 8)..... | 2,608,665,182 |
| 10. Part D, Section 1, Column 8..... | 8,705,742,601 |
| 11. Part D, Section 1, Column 9..... | (6,097,077,420) |
| 12. Total (Line 9 minus Line 10 minus Line 11)..... | ..... |
| | Potential Exposure Check |
| 13. Part A, Section 1, Column 21..... | 5,537,996,462 |
| 14. Part B, Section 1, Column 20..... | 102,176,350 |
| 15. Part D, Section 1, Column 11..... | 5,640,172,812 |
| 16. Total (Line 13 plus Line 14 minus Line 15)..... | ..... |

SCHEDULE E - PART 2 - VERIFICATION

(Cash Equivalents)

| | 1 | 2 |
|---|----------------|---------------------------------|
| | Year To Date | Prior Year Ended December 31 |
| 1. Book/adjusted carrying value, December 31 of prior year | 2,852,941,262 | 3,113,185,611 |
| 2. Cost of cash equivalents acquired | 25,886,408,573 | 87,472,714,310 |
| 3. Accrual of discount | 16,058,903 | 34,021,259 |
| 4. Unrealized valuation increase (decrease) | | |
| 5. Total gain (loss) on disposals | (4,711) | 62,534 |
| 6. Deduct consideration received on disposals | 25,934,074,195 | 87,767,042,452 |
| 7. Deduct amortization of premium | | |
| 8. Total foreign exchange change in book/adjusted carrying value | | |
| 9. Deduct current year's other than temporary impairment recognized | | |
| 10. Book/adjusted carrying value at end of current period (Lines 1+2+3+4+5-6-7+8-9) | 2,821,329,832 | 2,852,941,262 |
| 11. Deduct total nonadmitted amounts | | |
| 12. Statement value at end of current period (Line 10 minus Line 11) | 2,821,329,832 | 2,852,941,262 |