

MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY

BY-LAWS

As adopted April 8, 2015

ARTICLE I.

MEETINGS OF MEMBERS

- 1. Annual Meeting.** The annual meeting of the members of the Company shall be at such time and place as shall be determined by the Board of Directors, at any location determined by the Board of Directors either within or outside of the Commonwealth of Massachusetts, for the election of directors and for the transaction of such other business as may properly come before the meeting.
- 2. Special Meetings.** Special meetings of the members of the Company may be held at any date, time or place upon a call by the Chairman of the Board, the Chief Executive Officer or by a majority of the Board of Directors then in office. In addition, not less than one-half of one percent of the members of the Company may apply to the Secretary for a special meeting via written notice, and in that case the Secretary or the Board of Directors shall call such a meeting within seventy-five days after receipt of the written application therefor. Any written notice of the members requesting a special meeting shall specify the matter or matters to be acted upon at the meeting pursuant to the provisions in Article I, Section 4 of these By-laws that relate to the proper written form of a request for a special meeting. Special meetings called by the Secretary or the Board of Directors in response to the written request of the members shall be held at a date within such seventy-five day period, time and place to be fixed by the Chairman of the Board or the Board of Directors. In fixing a meeting date for any special meeting, the Chairman of the Board or the Board of Directors may consider such factors as he, she or it deems relevant within the good faith exercise of his, her or its business judgment, including, without limitation, the nature of the action proposed to be taken, the facts and circumstances surrounding any demand for such meeting, and any plan of the Board of Directors to call an annual or special meeting of the members for the conduct of related business.
- 3. Notice of Meetings.** Notice of any special meeting of the Company shall be given by the Secretary by publication in at least one daily newspaper printed in Hampden County, Massachusetts, not less than ten days nor more than fifteen days before the date of the meeting. Notice of any special meeting shall also be given by the Secretary by publication in

all editions of The Wall Street Journal printed in the United States and in at least one daily newspaper of general circulation printed on the east coast, on the west coast, and in the Midwestern United States once per week for three consecutive weeks, the last of which notices shall be published not less than ten days nor more than fifteen days before the date of the meeting. All such notices shall be published in the form of a "tombstone" size of advertisement. If notice of a special meeting cannot be given in the manner provided in the preceding sentences, such notice shall be given in such other reasonable manner as may be determined by the Chairman of the Board or the Chief Executive Officer.

Notice of the annual meeting of the Company shall be given as required by law and, in addition, may be given in any other manner which the Chairman of the Board or the Chief Executive Officer in his or her discretion deems to be reasonable.

4. Business of Meetings. No business may be conducted at any annual or special meeting of the members other than business that is either (a) specified in any notice of the meeting given by the Secretary or the Board of Directors, (b) otherwise properly brought before the meeting by or at the direction of the Board of Directors or the Chairman of the Board, or (c) otherwise properly brought before the meeting, in conformity with the provisions of this Article I. The presiding officer of the meeting shall not be required to accept more than one item of business brought by or on behalf of any individual member.

The submission by a member of business to be brought before an annual meeting of members shall have been made in proper written form, signed by not less than one-half of one percent of the members of the Company and filed with the Chairman of the Board and the Secretary of the Company at least seventy-five days and no more than ninety days before the date of the annual meeting. For this purpose "filed" shall mean received by five p.m. Eastern Time. If a member submits an item of business to be brought before an annual meeting of members in accordance with this Section, the Company shall bear all of its costs associated with bringing that item of business before the annual meeting regardless of the disposition of that item of business at the annual meeting.

The submission by a member of a request to call a special meeting of members shall have been made in proper written form, signed by not less than one-half of one percent of the members of the Company and filed with the Company pursuant to the procedures and requirements set forth in Article I, Section 2 of these By-laws. Any notice of such meeting provided by the Company shall be in accordance with these By-laws and applicable law.

To be in proper written form, a member's notice to the Secretary of the Company regarding business to be brought before an annual or special meeting of members must set forth (i) the name and record address of the member submitting the notice, as well as all other members signing the notice, (ii) a representation that the member submitting the notice intends to appear in person or by proxy at the meeting to introduce the item of business specified in the notice, (iii) a description of the business desired to be brought before the meeting, the reasons for conducting such business at the meeting and any material interest, if any, of the member submitting the notice and/or other members signing the notice in such business, and (iv) a description of all agreements, arrangements and understandings, if any, between the member submitting the notice and/or any member signing the notice and any other person or persons (including their names) in connection with the proposal of such business by such member. The Chairman of the Board or a majority of the directors then in office shall have the power and duty to determine whether the member's notice was in proper form and made in accordance with the procedures set forth in this section.

In no event shall any business be conducted at any annual or special meeting of the members that involves a proposal (i) that is an improper subject for action by members of a mutual life insurance company under Massachusetts law or regulations, (ii) which, if implemented, would cause the Company to be in violation of any state, federal or foreign law or regulation applicable to the Company, (iii) relating to the redress of a personal claim or grievance against the Company or any other person, or which is designed to result in a benefit to an individual member, or to further a personal interest, which is not shared by the other members at large, (iv) that relates to operations of the Company which account for less than five percent of the Company's total admitted assets at the end of its most recent fiscal year, (v) which the Company would lack the power or authority to implement, (vi) dealing with a matter relating to the Company's ordinary business operations, (vii) relating to the election of a person to any committee or internal administrative body of the Company, or to the Board of Directors other than in accordance with the nomination procedures prescribed under Article II, Section 3 of these By-laws, (viii) which has already been substantially implemented by the Company, or (ix) which is otherwise properly excludable.

Except as authorized by the Board of Directors, in no event shall any member be permitted to bring any item of business to be conducted at any annual or special meeting of the members that (i) is substantially similar to business brought by or on behalf of a member at a meeting held during the previous three years, and (ii) failed to be approved by at least ten

percent (10%) of the member votes cast thereon, in person or by proxy, at such prior meeting. In no event shall the restrictions in the preceding sentence apply to nominations made in accordance with the procedures in Article II, Section 3 of these By-laws or to matters brought by or on behalf of the Company.

5. Quorum. The members present, in person or by proxy, at meetings of the Company shall constitute a quorum. Any matter properly before a meeting shall be decided by a majority of the votes cast thereon, except as set forth in these By-laws or as otherwise required by law.

6. Presiding Officer. The Chairman of the Board shall preside at all meetings of the members of the Company. In the absence of the Chairman of the Board, the Board of Directors shall designate the person who is to preside at such meetings. The chairperson at any meeting of members of the Company shall determine the order of business and the procedure at the meeting, including the items of business to be brought before the meeting. The Secretary of the Company shall act as secretary of the meeting, although in such person's absence the chairperson of any meeting may appoint any person to act as secretary of the meeting.

7. Safeguarding Personal Information. Except as required by law or as may be authorized by the Board of Directors or the Chief Executive Officer of the Company, the Company shall not permit access to or furnish copies of any lists of member or policyholder names, mailing addresses, e-mail addresses or other personal or confidential policyholder or member data in conjunction with any person's activities relating to any annual or special meeting of members. In lieu of providing access to or copies of any such data, the Secretary shall arrange for the mailing of any solicitation material furnished by such member or policyholder relating to any such proper purpose to be brought before a meeting in accordance with the provisions of these By-laws, following receipt of such sums as may be estimated in good faith by the Secretary as payment for the Company's expenses in securing the mailing of the solicitation material. Such solicitation material shall not include any improper material or material unrelated to such business.

8. Proxies. The Company shall have no obligation to include information concerning any business proposed by a member, including but not limited to the election of directors, in any proxy solicitation materials or statements, in the absence of Board of Directors' approval.

9. Adjournments. The chairperson presiding over any annual or special meeting of the members shall have the power to adjourn the meeting to another time, date and place, and notice need not be given of any such

adjourned meeting if the time, date and place thereof by which members and proxy holders may be deemed to be present in person and vote at such adjourned meeting are announced at the meeting at which the adjournment is taken; *provided, however,* that if the adjournment is for more than thirty (30) days, then a notice of the adjourned meeting shall be given to each member entitled to vote at the meeting. At the adjourned meeting, the Company may transact any business that might have transacted at the original meeting. To the fullest extent permitted by law, the Board of Directors may postpone or reschedule any previously scheduled special or annual meeting of the members before it is to be held, in which case notice will be provided to the members of the new date, time and place of the meeting as provided in this Article I.

ARTICLE II.

BOARD OF DIRECTORS

- 1. Membership.** The Board of Directors shall be not less than seven nor more than twenty-one in number, or such other number as shall be determined by the Board of Directors. The number of directors who shall serve shall be fixed from time to time by the Board of Directors.
- 2. Powers.** Except as reserved to the members of the Company by law or by these By-laws, the Board of Directors shall have and may exercise all the powers of the Company. The Board of Directors shall make such rules and regulations as it shall deem necessary or convenient for the regulation and management of the affairs of the Company.
- 3. Election.** All directors shall be elected by the members of the Company at the annual meeting, except when the provisions of Section 5 of this Article II shall apply. The directors shall be divided into four classes, with each class to consist of approximately one-fourth of the number of directors, and the term of one class shall expire each year. Except as provided in the next succeeding sentence, the term of office of each director elected by the members shall continue until the fourth annual meeting of the members after the election of such director and until any successor shall have been elected, unless a director sooner dies, resigns or is removed. At each annual meeting of the members, the directors elected to succeed those whose terms then expire shall be of one class, except that in order to achieve a more equal division of classes, to provide for additional directors upon an increase in the size of the Board of Directors pursuant to Article II, Section 1 of these By-laws, or to provide for the departure of an officer who is also a director in accordance with Article II, Section 4 of these By-laws prior to the fourth subsequent annual meeting, the directors may authorize the election of directors at the

annual meeting to more than one class and to terms of less than four years and the terms of such directors shall expire with the terms of the members of the class to which they shall have been elected.

At the first regular meeting of the Board of Directors in each calendar year, the committee of the Board of Directors having responsibility for the nomination of directors shall submit a list of nominees for election to the Board of Directors at the next annual meeting. Such list shall be in writing and shall be filed with the Secretary of the Company. The submission of the list of nominees of such committee shall not prevent the nomination of other candidates by members, but no such other candidate shall be eligible for election to the Board of Directors unless such candidate's nomination shall have been made in proper written form, signed by not less than one-half of one percent of the members of the Company and filed with the Chairman of the Board and the Secretary of the Company at least seventy-five days and no more than ninety days before the date of the annual meeting. For this purpose "filed" shall mean received by five p.m. Eastern Time.

To be in proper written form, a member's notice to the Secretary of the Company must set forth (a) as to each person whom the member proposes to nominate for election or re-election as a Director, (i) the name, age, business address and residence address of the nominee, (ii) the principal occupation or employment of the nominee, (iii) the written consent of each nominee to serve as a Director of the Company if so elected and (iv) a description of any relationship between the Company and the nominee; and (b) as to the member giving the notice (i) the name and record address of the member submitting the notice, as well as all other members signing the notice, (ii) a representation that the member submitting the notice intends to appear in person or by proxy at the meeting to nominate the person or persons specified in the notice, and (iii) a description of all arrangements or understandings between the member submitting the notice and each proposed nominee and any other person or persons (naming such person or persons) pursuant to which the nomination or nominations are to be made by such member. The Chairman of the Board or a majority of directors then in office shall have the power and duty to determine whether a nomination was made in accordance with the procedures set forth in this section.

4. Tenure. A director shall be eligible for re-election upon the expiration of his or her term. The term of office of a director who is an officer of the Company, other than a director who has served as Chief Executive Officer, shall expire on the date that such director ceases to be an officer of the Company, although such director shall serve in office until his or her successor is duly elected.

5. Vacancies. Vacancies on the Board of Directors occurring for any reason whatsoever, including an increase in the size of the Board, may be filled by the Board of Directors. Any director so elected shall hold office until the next annual meeting of the Company and until his or her successor is duly elected, or, if elected to fill a vacancy caused by death, resignation, retirement or removal, shall hold office for a term which shall coincide with the remainder of the term of the class of the vacant directorship. If by reason of a vacancy there is less than the minimum number of directors or less than the minimum number of members of a committee of the Board of Directors, the Board of Directors or such committee shall have the power, as long as there shall always be a quorum, to function legally pending the filling of the vacancy. The Board of Directors may provide for the filling of vacancies on the Board of Directors in the event that due to an act of war, other disaster or national emergency, either no directors are able and available to act or the number of directors who are able and available to act is less than a quorum.

6. Removal. A director may be removed from his or her office by vote of a majority of all directors. A director may also be removed by vote of a majority of the votes cast thereon at any special meeting of the members of the Company, provided that the special meeting shall have been called by members in compliance with the provisions of Article I, Sections 2 and 4 of these By-laws regarding proper form of request for a special meeting. Any reduction by the Board of Directors pursuant to Article II, Section 1 of these By-laws in the number of authorized directors shall not result in the removal of any director whose term has not expired.

7. Meetings. All regular meetings of the Board of Directors shall be held at such place, date and time as shall be determined by the Chairman of the Board, provided that notice thereof shall be mailed to the directors not less than ten days in advance of the meeting. The notice requirement shall be considered waived by any director attending a meeting without protest and may also be waived by a director in writing. Special meetings of the Board of Directors may be called at any time by a written request of a majority of directors then in office, the Chairman of the Board or, if the Chairman is unavailable, by the Secretary of the Company, and shall be called by the Chairman of the Board or, if the Chairman is unavailable, by the Secretary of the Company, upon receipt of the written request of not less than a majority of the directors then in office. All special meetings of the Board of Directors shall be held at a date, time and place to be fixed by the Chairman of the Board or, if the Chairman is unavailable, by the Secretary of the Company, and notice thereof shall be deemed sufficient if given by telegram, facsimile transmission, telephone, electronic mail,

other electronic transmission or personal delivery at least twenty-four hours before the meeting or on such shorter notice as the Chairman of the Board or the Secretary of the Company may deem necessary or appropriate in the circumstances. The Chairman of the Board shall preside at all meetings of the Board of Directors. In the absence of the Chairman of the Board, the Board of Directors shall designate the person who is to preside at such meetings.

8. Quorum. A majority of the directors then in office shall constitute a quorum for the transaction of business at any regular or special meeting of the Board of Directors, provided that a majority of the directors constituting said quorum are independent directors. The directors in attendance at any such meeting shall have authority to determine whether a quorum is present. Any matter properly before a meeting of the Board of Directors shall be decided by a majority of the votes cast thereon, except as may otherwise be required by law or by these By-laws.

9. Exclusion of Liability. No director shall be personally liable to the Company or its policyholders for monetary damages for breach of fiduciary duty as a director, notwithstanding any provision of law imposing such liability; provided, however, that such director shall remain personally liable for damages incurred by the Company or its policyholders resulting from (a) any breach of the director's duty of loyalty to the Company or its policyholders, (b) acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law by the director, (c) any transaction from which the director derives an improper personal benefit, or (d) acts or omissions of the director which occurred prior to the effective date of this provision.

ARTICLE III.

COMMITTEES OF THE BOARD OF DIRECTORS

The Board of Directors shall create such committees of the Board of Directors as it may deem necessary or convenient for the conduct of the business of the Company, and may delegate to any such committee or committees some or all of the powers of the directors except those which by law or by these By-laws it is prohibited from delegating. The Board of Directors shall appoint the members of any such committee of the Board from its number on an annual basis. Except as the Board of Directors may otherwise determine, any such committee may make rules for the conduct of its business.

ARTICLE IV.

OFFICERS

1. Election of Officers. The Board of Directors at its first meeting after each annual meeting of the Company shall elect a Chairman of the Board who shall be a director and who may or may not be an officer of the Company, a Chief Executive Officer, a President, a Secretary, a Treasurer and such other officers as it may deem necessary or convenient for the conduct of the business of the Company. The Board of Directors, at any meeting, may elect additional officers, including officers to succeed those elected at a prior meeting. Any person may hold more than one office except that the same person may not serve as both President and Secretary. Each officer elected shall hold office until the first meeting of the Board of Directors after the annual meeting of the Company in the following year unless such officer's term of office is terminated prior to such time by death, resignation, retirement or vote of the directors.

2. Powers and Duties. Each officer elected by the Board of Directors shall have such powers and duties as may be assigned from time to time by the Board of Directors, or by the Chief Executive Officer at the direction of the Board of Directors.

If the Chairman of the Board is unable for any reason to exercise the powers granted to, or the duties imposed upon, that office by these By-laws, the President shall exercise such power and duties.

3. Removal. Any officer of the Company shall serve at the pleasure of the Board of Directors and may be removed at any time by the Board of Directors, with or without cause.

ARTICLE V.

INDEMNIFICATION

Subject to limitations of law, the Company shall indemnify:

- (a) each director, officer or employee;
- (b) any individual who serves at the request of the Company as a director, board member, committee member, partner, trustee, officer or employee of any foreign or domestic organization or any separate investment account; or
- (c) any individual who serves in any capacity with respect to any employee benefit plan,

from and against all loss, liability and expense imposed upon or incurred by such person in connection with any threatened, pending or completed action, claim, suit, investigation or proceeding of any nature whatsoever, in which such person may be involved or with which he or she may be threatened to be involved, by reason of any alleged act, omission or otherwise while serving in any such capacity, whether such action, claim, suit, investigation or proceeding is civil, criminal, administrative, arbitrative, or investigative and/or formal or informal in nature. Indemnification shall be provided although the person no longer serves in such capacity and shall include protection for the person's heirs and legal representatives.

Indemnities hereunder shall include, but not be limited to, all costs and reasonable counsel fees, fines, penalties, judgments or awards of any kind, and the amount of reasonable settlements, whether or not payable to the Company or to any of the other entities described in the preceding paragraph, or to the policyholders or security holders thereof.

Notwithstanding the foregoing, no indemnification shall be provided with respect to:

1. any matter as to which the person shall have been adjudicated in any proceeding not to have acted in good faith in the reasonable belief that his or her action was in the best interests of the Company or, to the extent that such matter relates to service with respect to any employee benefit plan, in the best interests of the participants or beneficiaries of such employee benefit plan;
2. any liability to any entity which is registered as an investment company under the Federal Investment Company Act of 1940 or to the security holders thereof, where the basis for such liability is willful misfeasance, bad faith, gross negligence or reckless disregard of the duties involved in the conduct of the office; and
3. any action, claim or proceeding voluntarily initiated by any person seeking indemnification, unless such action, claim or proceeding had been authorized by the Board of Directors or unless such person's indemnification is awarded by vote of the Board of Directors.

In any matter disposed of by settlement or in the event of an adjudication which in the opinion of the General Counsel or his or her delegate does not make a sufficient determination of conduct which could preclude or permit indemnification in accordance with the preceding paragraphs (1),

(2) and (3), the person shall be entitled to indemnification unless, as determined by the majority of the disinterested directors or in the opinion of counsel (who may be an officer of the Company or outside counsel employed by the Company), such person's conduct was such as precludes indemnification under any such paragraph. The termination of any action, claim, suit, investigation or proceeding by judgment, order, settlement, conviction, or upon a plea of nolo contendere or its equivalent shall not, of itself, create a presumption that the person did not act in good faith and in a manner which he or she reasonably believed to be in the best interests of the Company.

The Company may at its option indemnify for expenses incurred in connection with any action or proceeding in advance of its final disposition, upon receipt of a satisfactory undertaking for repayment if it be subsequently determined that the person thus indemnified is not entitled to indemnification under this Article V.

ARTICLE VI.

FISCAL YEAR

The fiscal year of the Company shall end with the last day of December annually.

ARTICLE VII.

AMENDMENTS

1. By-laws. These By-laws may be amended or repealed by vote of two-thirds of the number of votes cast thereon at any meeting of the members of the Company, provided that the proposed amendment or repeal shall have been made in writing by a member and filed with the Chairman of the Board and the Secretary at least seventy-five days but no more than ninety days before the date of the meeting at which action thereon is to be taken and further provided that the Board of Directors shall have approved the proposed By-law amendment or repeal.

These By-laws may also be amended or repealed by vote of two-thirds of the number of votes cast thereon at any meeting of the members of the Company, provided that the proposed amendment or repeal shall have been made in writing by a member and be signed by not less than one-half of one percent of the members of the Company and filed with the Chairman of the Board and the Secretary of the Company at least seventy-five days but no more than ninety days before the date of the meeting. For this purpose, "filed" shall mean received by five p.m. Eastern Time.

These By-laws may also be amended or repealed by vote of two-thirds of the number of votes cast thereon at any meeting of the members of the Company following approval of the Board of Directors of such proposed By-law amendment or repeal, provided that, for purposes of this paragraph only, notice of the proposed By-law amendment or repeal is provided to members at least thirty (30) days in advance of such meeting in any manner required by law and, in addition, in any other manner which the Chairman of the Board or the Chief Executive Officer in his or her discretion deems to be reasonable.

2. Articles of Organization. The Company may authorize a proper amendment of its articles of organization by a two-thirds vote of those members present and voting at a meeting duly called for the purpose, provided that: (1) the proposed amendment shall have been made in writing by a member and filed with the Chairman of the Board and the Secretary at least seventy-five days but no more than ninety days before the date of the meeting at which action thereon is to be taken, (2) the proposed amendment shall have been determined by the Company to be proper, and (3) the Board of Directors shall have approved the proposed amendment prior to its submission to members for vote.

The Company also may authorize a proper amendment of its articles of organization by a two-thirds vote of those members present and voting at a meeting duly called for the purpose, provided that: (1) the proposed amendment shall have been made in writing by a member and signed by not less than one-half of one percent of the members of the Company and filed with the Chairman of the Board and the Secretary at least seventy-five days but no more than ninety days before the date of the meeting at which action thereon is to be taken, and (2) the amendment shall have been determined by the Company to be proper.

An amendment shall be considered proper if any provision added to or changes made in the articles of organization by such amendment could have been included in, and any provision deleted thereby could have been omitted from, original articles of organization filed at the time of the meeting.

If approved by a two-thirds vote of members present and voting at a meeting duly called for the purpose and if signed by a majority of the directors, the President and the Secretary, the Company shall authorize such amendment to be adopted and such amendment shall be submitted by the Company to the Commissioner of Insurance for approval.