CEO/CFO INTERNAL CONTROL CERTIFICATION December 31, 2019

Massachusetts Mutual Life Insurance Company and C.M. Life Insurance Company (the "Companies") are not public companies subject to Section 302 of the Sarbanes-Oxley Act of 2002 ("SOX"). Notwithstanding, the Companies have voluntarily implemented certain financial reporting control procedures similar to those required by Section 302 of SOX. While voluntary for purposes of SOX, such financial reporting control procedures are required of the Companies to comply with the requirements of the NAIC Model Audit Rule, as of, and for the period ending, December 31, 2019 ("Reporting Period").

1. Management is responsible for establishing and maintaining adequate internal control over financial reporting of the statutory financial statements of the Companies. The Companies' internal control over financial reporting is comprised of processes designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of statutory financial statements in accordance with accounting practices prescribed or permitted by the Commonwealth of Massachusetts Division of Insurance and the Connecticut Insurance Department ("statutory accounting practices") for the Companies respectively.

Internal control over financial reporting includes those policies and procedures that: (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with statutory accounting practices, and that revenues are recorded and expenses incurred only in accordance with authorizations of management and directors; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements, whether caused by error or fraud. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

2. Based on the SEC Guidance for Management on evaluating internal control over financial reporting, management developed its own internal framework for evaluating the effectiveness of internal control over financial reporting. This framework was informed by the principles and points of focus outlined in the Internal Control – Integrated Framework (2013) developed by the Committee of Sponsoring Organizations ("COSO"). Based upon the results of management risk assessments of the Companies' activities related to financial reporting, management updated relevant business process documentation, identified key controls over financial reporting, and performed tests of the operating effectiveness of key controls over high risk financial reporting activity. Management in each business and corporate unit has assessed the effectiveness of internal controls over financial reporting and has provided its conclusion in writing to the CFO.

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Based on the work performed and through diligent inquiry, management has concluded that the Companies maintained effective internal control over statutory financial reporting for the Reporting Period.

- 3. We have reviewed the Financial Statements¹ of the Companies for the Reporting Period.
- 4. Based on our knowledge, the Financial Statements do not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the periods covered by the Financial Statements.
- 5. Based on our knowledge, the Financial Statements fairly present in all material respects the financial condition, results of operations and cash flows of the Companies for the Reporting Period.
- 6. There have been no significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the Reporting Period, including any corrective actions with regard to "material weaknesses."
- 7. Based on our most recent evaluation of internal control over financial reporting, we have informed the Companies' independent auditors, the Audit Committee of the Board of Directors, and, as required by law, any appropriate regulators if:
 - a. any "significant deficiencies" or "material weaknesses" have been identified in the design or operation of internal control over financial reporting that are reasonably likely to adversely affect the Companies' ability to record, process, summarize and report financial data; and
 - b. any fraud, whether or not material, has been detected involving management or other employees who have a significant role in the Companies' internal controls over financial reporting.

Signature

Date

Roger W. Crandall President and Chief Executive Officer Signature

Date

Elizabeth A. Ward Executive Vice President and Chief Financial Officer

¹ Financial Statements refers to the Statement of Assets, Liabilities, Surplus and Other Funds; the Summary of Operations; the Statement of Cash Flow and the Notes to Financial Statements.