

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

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*Agency*

**Insurance Department**

*Subject*

**Connecticut Standard Valuation Law Actuarial Opinion and Memorandum**

*Inclusive Sections*

**§§ 38a-78-1—38a-78-44**

CONTENTS

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Sec. 38a-78-1.	Purpose
Sec. 38a-78-2.	Authority
Sec. 38a-78-3.	Applicability and scope
Sec. 38a-78-4.	Definitions
Sec. 38a-78-5.	General requirements
Sec. 38a-78-6.	Repealed
Sec. 38a-78-7.	Statement of actuarial opinion based on an asset adequacy analysis
Sec. 38a-78-8.	Repealed
Sec. 38a-78-9.	Description of an actuarial memorandum including an asset adequacy analysis and a regulatory asset adequacy issues summary
Sec. 38a-78-10.	Repealed
<b>Minimum Reserve Standards for Individual and Group Health Insurance Contracts</b>	
Sec. 38a-78-11.	Introduction
Sec. 38a-78-12.	Definitions
Sec. 38a-78-13.	Claim reserves
Sec. 38a-78-14.	Premium reserves
Sec. 38a-78-15.	Contract reserves
Sec. 38a-78-16.	Reinsurance
Sec. Appendix A.	Specific Standards for Morbidity, Interest and Mortality
Sec. Appendix B.	

**Mortality Tables and Minimum Reserve Liabilities**

Sec. 38a-78-1—38a-78-9.	TransferredTransferred
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**NAIC Model Regulation Permitting Smoker/Nonsmoker Mortality Tables for Use in Determining Minimum Reserve Liabilities**

Sec. 38a-78-17.	Purpose
Sec. 38a-78-18.	Definitions

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

---

---

Sec. 38a-78-19. Alternate tables

Sec. 38a-78-20. Conditions

**NAIC Model Regulation for Recognizing New Annuity Mortality Tables For Use In Determining Reserve Liabilities for Annuities**

Sec. 38a-78-21. Purpose

Sec. 38a-78-22. Definitions

Sec. 38a-78-23. Individual annuity or pure endowment contracts

Sec. 38a-78-23a. Application of the 2012 IAR Table

Sec. 38a-78-24. Group annuity or pure endowment contracts

Sec. 38a-78-25. Separability

Sec. 38a-78-26. Purpose

Sec. 38a-78-27. Definitions

Sec. 38a-78-28. 2001 CSO mortality table

Sec. 38a-78-29. Conditions

Sec. 38a-78-30. Separability

**Recognition of Preferred Mortality Tables for Use in Determining Minimum Reserve Liabilities**

Sec. 38a-78-31. Purpose

Sec. 38a-78-32. Definitions

Sec. 38a-78-33. 2001 CSO preferred class mortality table

Sec. 38a-78-34. Conditions

Sec. 38a-78-35. Separability

**Preneed Life Insurance Minimum Standards for Determining Reserve Liabilities and Nonforfeiture Values Model**

Sec. 38a-78-36. Authority

Sec. 38a-78-37. Scope

Sec. 38a-78-38. Purpose

Sec. 38a-78-39. Definitions

Sec. 38a-78-40. Minimum valuation mortality standards

Sec. 38a-78-41. Minimum valuation interest rate standards

Sec. 38a-78-42. Minimum valuation method standards

Sec. 38a-78-43. Transition rules

Sec. 38a-78-44. Effective date

Sec. APPENDIX 1.

Sec. APPENDIX 2.

Sec. APPENDIX 3.

Sec. APPENDIX 4.

**Connecticut Standard Valuation Law Actuarial Opinion and Memorandum**

**Sec. 38a-78-1. Purpose**

The purpose of sections 38a-78-1 to 38a-78-9, inclusive, of the Regulations of Connecticut State Agencies is to prescribe:

- (a) requirements for statements of actuarial opinion that are to be submitted in accordance with subsection (b) of section 38a-78 of the Standard Valuation Law, and for memoranda in support thereof;
- (b) rules applicable to the appointment of an appointed actuary; and
- (c) guidance as to the meaning of “adequacy of reserves”.

(Effective September 28, 1993; Amended December 23, 2008)

**Sec. 38a-78-2. Authority**

This regulation is promulgated pursuant to the authority vested in the insurance commissioner of the State of Connecticut under sections 38a-78 (b), 38a-(8)(c) and 38a-614(9) of the Connecticut General Statutes.

(Effective September 28, 1993; Amended December 23, 2008)

**Sec. 38a-78-3. Applicability and scope**

Sections 38a-78-1 to 38a-78-9, inclusive, of the Regulations of Connecticut State Agencies shall apply to all life insurance companies and fraternal benefit societies doing business in this state and to all life insurance companies and fraternal benefit societies which are authorized to reinsure life insurance, annuities or accident and health insurance business in this state. Sections 38a-78-1 to 38a-78-9, inclusive, of the Regulations of Connecticut State Agencies shall be applied in a manner which allows the appointed actuary to utilize his or her professional judgment in performing the asset adequacy analysis and developing the actuarial opinion and supporting memoranda, consistent with relevant actuarial standards of practice. However, the commissioner shall have the authority to specify specific methods of actuarial analysis and actuarial assumptions when, in the commissioner’s judgment, these specifications are necessary for an acceptable opinion to be rendered relevant to the adequacy of reserves and related items. Sections 38a-78-1 to 38a-78-9, inclusive, of the Regulations of Connecticut State Agencies shall be applicable to all annual statements filed with the commissioner for the year 2009 and thereafter. A statement of opinion on the adequacy of the reserves and related actuarial items based on an asset adequacy analysis in accordance with section 38a-78-7 of the Regulations of Connecticut State Agencies, and a memorandum in support thereof in accordance with section 38a-78-9 of the Regulations of Connecticut State Agencies, shall be required each year.

(Effective September 28, 1993; Amended December 23, 2008)

**Sec. 38a-78-4. Definitions**

As used in sections 38a-78-1 to 38a-78-9, inclusive of the Regulations of Connecticut

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

§38a-78-5

*Insurance Department*

State Agencies:

(a) “Actuarial Opinion” means the opinion of an appointed actuary regarding the adequacy of the reserves and related actuarial items based on an asset adequacy analysis in accordance with Section 38a-78-7 of these regulations and with applicable Actuarial Standards of Practice.

(b) “Actuarial Standards Board” means the board established by the American Academy of Actuaries to develop and promulgate standards of actuarial practice.

(c) “Annual Statement” means that statement required by Section 38a-53 of the Connecticut General Statutes to be filed by the company with the commissioner annually.

(d) “Appointed Actuary” means any individual who is appointed or retained in accordance with the requirements set forth in subsection (c) of section 38a-78-5 of the Regulations of Connecticut State Agencies to provide the actuarial opinion and supporting memorandum as required by subsection (b) of section 38a-78 of the Standard Valuation Law.

(e) “Asset Adequacy Analysis” means an analysis that meets the standards and other requirements referred to in subsection (d) of section 38a-78-5 of the Regulations of Connecticut State Agencies.

(f) “Commissioner” means the insurance commissioner of the State of Connecticut.

(g) “Company” means a life insurance company, fraternal benefit society or reinsurer subject to the provisions of these regulations.

(h) “NAIC” means the National Association of Insurance Commissioners.

(i) “Qualified Actuary” means any individual who meets the requirements set forth in subsection (b) of section 38a-78-5 of the Regulations of Connecticut State Agencies.

(j) “Standard Valuation Law” means sections 38a-77 and 38a-78 of the Connecticut General Statutes.

(Effective September 28, 1993; Amended December 23, 2008)

**Sec. 38a-78-5. General requirements**

**(a) Submission of Statement of Actuarial Opinion.**

(1) There is to be included on or attached to page 1 of the annual statement for each year beginning with the year in which this regulation becomes effective the statement of an appointed actuary, entitled “Statement of Actuarial Opinion,” setting forth an opinion relating to reserves and related actuarial items held in support of policies and contracts, in accordance with section 38a-78-7 of the Regulations of Connecticut State Agencies.

In the case of a statement of actuarial opinion required to be submitted by a foreign or alien company, the commissioner may accept the statement of actuarial opinion filed by such company with the insurance supervisory regulator of another state if the commissioner determines that such opinion reasonably meets the requirements applicable to a company domiciled in this state.

(2) Upon written request by the company, the commissioner may grant an extension of the date for submission of the statement of actuarial opinion.

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

---

---

*Insurance Department*

§38a-78-5

(b) **Qualified Actuary.** A “qualified actuary” is an individual who:

- (1) is a member in good standing of the American Academy of Actuaries;
- (2) is qualified to sign statements of actuarial opinion for life and health insurance company annual statements in accordance with the American Academy of Actuaries qualification standards for actuaries signing such statements;
- (3) is familiar with the valuation requirements applicable to life and health insurance companies;
- (4) has not been found by the commissioner (or if so found has subsequently been reinstated as a qualified actuary), following appropriate notice and hearing to have:
  - (A) violated any provision of, or any obligation imposed by, the insurance law or other law in the course of his or her dealings as a qualified actuary;
  - (B) been found guilty of fraudulent or dishonest practices;
  - (C) demonstrated his or her incompetency, lack of cooperation, or untrustworthiness to act as a qualified actuary;
  - (D) submitted to the commissioner during the past five years, pursuant to this regulation, an actuarial opinion or memorandum that the commissioner rejected because it did not meet the provisions of this regulation including standards set by the Actuarial Standards Board; or
  - (E) resigned or been removed as an appointed actuary within the past five years as a result of acts or omissions indicated in any adverse report on examination or as a result of failure to adhere to generally acceptable actuarial standards; and
- (5) has not failed to notify the commissioner of any action taken by any insurance commissioner of any other state similar to that under subdivision (4) of this subsection.

(c) **Appointed Actuary.** An “appointed actuary” is a qualified actuary who is appointed or retained to prepare the Statement of Actuarial Opinion required by this regulation, either directly by or by the authority of the board of directors through an executive officer of the company other than the qualified actuary. The company shall give the commissioner timely written notice of the name, title (and, in the case of a consulting actuary, the name of the firm) and manner of appointment or retention of each person appointed or retained by the company as an appointed actuary and shall state in such notice that such person meets the requirements set forth in subdivision (b) of this section. Once notice is furnished, no further notice is required with respect to this person, provided that the company shall give the commissioner timely written notice in the event the actuary ceases to be appointed or retained as an appointed actuary or to meet the requirements set forth in subdivision (b) of this section. If any person appointed or retained as an appointed actuary replaces a previously appointed actuary, the notice shall so state and give the reasons for replacement. An actuary nominated to replace an appointed actuary should consult the previous appointed actuary to determine whether reason exists to decline the appointment. If reason exists to decline the appointment, the source of conflict should be resolved, or the appointment declined.

(d) **Standards for Asset Adequacy Analysis.** The asset adequacy analysis required by

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

§38a-78-6

*Insurance Department*

this Regulation of the Connecticut State Agencies:

(1) shall conform to the standards of practice as promulgated from time to time by the Actuarial Standards Board and to any additional standards under this Regulation of Connecticut State Agencies, which standards are to form the basis of the statement of actuarial opinion in accordance with section 38a-78-7 of the Regulations of Connecticut State Agencies; and

(2) shall be based on methods of analysis as are deemed appropriate for such purposes by the Actuarial Standards Board.

**(e) Liabilities to be Covered.**

(1) Under authority of subsection (b) of section 38a-78 of the Standard Valuation Law, the statement of actuarial opinion shall apply to all in force business on the statement date whether directly issued or assumed regardless of when or where issued, e.g., reserves in the life, accident and health statement Exhibits 5, 6 and 7, and claim liabilities in Exhibit 8, Part 1 and equivalent items in the separate account statement or health statement.

(2) If the appointed actuary determines as the result of asset adequacy analysis that a reserve should be held in addition to the aggregate reserve held by the company and calculated in accordance with methods set forth in subsections (g), (h), (j), (k) and (l) of section 38a-78 of the Standard Valuation Law, the company shall establish such additional reserve.

(3) Additional reserves established under subdivision (2) of subsection (e) of this section and deemed not necessary in subsequent years may be released. Any amounts released must be disclosed in the actuarial opinion for the applicable year. The release of such reserves shall not be deemed an adoption of a lower standard of valuation.

(Effective September 28, 1993; Amended December 23, 2008)

**Sec. 38a-78-6. Repealed**

Repealed December 23, 2008.

**Sec. 38a-78-7. Statement of actuarial opinion based on an asset adequacy analysis**

(a) **General Description.** The statement of actuarial opinion submitted in accordance with this section shall consist of (1) a paragraph identifying the appointed actuary and his or her qualifications consistent with the requirements of subdivision (1) of subsection (b) of this section; (2) a scope paragraph identifying the subjects on which the opinion is to be expressed and describing the scope of the appointed actuary's work, including a tabulation delineating the reserves and related actuarial items that have been analyzed for asset adequacy and the method of analysis in accordance with subdivision (2) of subsection (b) of this section and identifying the reserves and related actuarial items covered by the opinion that may not have been so analyzed; (3) a reliance paragraph, in accordance with subdivision (3) of subsection (b) of this section, describing those areas, if any, where the appointed actuary has deferred to other experts in developing data, procedures, or assumptions such as anticipated cash flows from currently owned assets, including variation in cash flows

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

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*Insurance Department*

§38a-78-7

according to economic scenarios, supported by a statement of each such expert in the form prescribed by subsection (e) of this section; (4) an opinion paragraph, in accordance with subdivision (6) of subsection (b) of this section, expressing the appointed actuary's opinion with respect to the adequacy of the supporting assets to mature the liabilities; (5) one or more additional paragraphs in individual company cases as follows; (A) if the appointed actuary considers it necessary to state a qualification of his or her opinion; (B) if the appointed actuary must disclose an inconsistency in the method of analysis or basis of asset allocation used at the prior opinion date with that used for this opinion; (C) if the appointed actuary must disclose whether additional reserves as of the prior opinion date are released as of this opinion date, and the extent of the release; (D) if the appointed actuary chooses to add a paragraph briefly describing the assumptions that form the basis for the actuarial opinion.

(b) **Recommended Language.** The following language provided is that which in typical circumstances would be included in a statement of actuarial opinion in accordance with this section. The language may be modified as needed to meet the circumstances of a particular case, but the appointed actuary shall use language which clearly expresses his professional judgment. However, in any event the opinion shall retain all pertinent aspects of the language provided in this Section.

(1) The opening paragraph shall indicate the appointed actuary's relationship to the company and his qualifications to sign the opinion. For a company actuary, the opening paragraph of the actuarial opinion shall include a statement such as:

"I, (name of actuary), am (title) of (name of company) and a member of the American Academy of Actuaries. I was appointed by, or by the authority of, the Board of Directors of said insurer to render this opinion as stated in the letter to the commissioner dated (insert date). I meet the Academy qualification standards for rendering the opinion and am familiar with the valuation requirements applicable to life and health companies."

For a consulting actuary, the opening paragraph of the actuarial opinion shall contain a sentence such as:

"I, (name and title of actuary), a member of the American Academy of Actuaries, am associated with the firm of (insert name of consulting firm). I have been appointed by, or by the authority of, the Board of Directors of (name of company) to render this opinion as stated in the letter to the commissioner dated (insert date). I meet the Academy qualification standards for rendering the opinion and am familiar with the valuation requirements applicable to life and health insurance companies."

(2) The scope paragraph shall contain a sentence such as the following: "I have examined the actuarial assumptions and actuarial methods used in determining reserves and related actuarial items listed below, as shown in the annual statement of the company, as prepared for filing with state regulatory officials, as of December 31, ( )."

Tabulated below are those reserves and related actuarial items that shall be subjected to asset adequacy analysis.

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

§38a-78-7

*Insurance Department*

<b>Asset Adequacy Tested Amounts – Reserves and Liabilities</b>					
Statement Item	Formula Reserves (1)	Additional Actuarial Reserves (a) (2)	Analysis Methods (b)	Other Amount (3)	Total Amount (1)+(2)+(3) (4)
Exhibit 5 Life Insurance					
Annuities					
Supplementary Contracts with Line Contingencies					
Accidental Death Benefits					
Disability – Active Lives					
Disability – Disabled Lives					
Miscellaneous Reserves					
Total Exhibit 5 (Line 1, Page 3)					
Exhibit 6 Active Life Reserve					
Claim Reserve					
Total Exhibit 6 (Line 2, Page 3)					
Exhibit 7 Premium and Other Deposit Funds (Column 6, Line 14)					
Guaranteed Interest Contracts (Column 2, Line 14)					
Annuities Certain (Column 3, Line 14)					
Supplemental Contracts (Column 4, Line 14)					
Dividend Accumulations or Refunds (Column 5, Line 14)					
Total Exhibit 7 (Line 3, Page 3)					
Exhibit 8 Part 1 1 Life					



*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

*Insurance Department*

§38a-78-7

<b>Asset Adequacy Tested Amounts – Reserves and Liabilities</b>					
Statement Item	Formula Reserves (1)	Additional Actuarial Reserves (a) (2)	Analysis Methods (b)	Other Amount (3)	Total Amount (1)+(2)+(3) (4)
(Line 4.1, Page 3)					
2 Health (Line 4.2, Page 3)					
Total Exhibit 8 Part 1					
Separate Accounts (Page 3 of the Annual Statement of the Separate Accounts, Lines 1 and 2)					
<b>TOTAL RESERVES</b>					

IMR (General Account, Page _____ Line _____ )	
(Separate Accounts, Page _____ Line _____ )	
AVR (Page _____ Line _____ )	(c)
Net Deferred and Uncollected Premium	

Notes:

(a) The additional actuarial reserves established under subdivision (2) of subsection (e) of section 38a-78-5 of the Regulations of the Connecticut State Agencies.

(b) The appointed actuary shall indicate the method of analysis, determined in accordance with the standards for asset adequacy analysis referred to in subsection (d) of section 38a-78-5 of the Regulations of Connecticut State Agencies, by means of symbols that shall be defined in footnotes to the table.

(c) Allocated amount of Asset Valuation Reserve (AVR).

(3) If the appointed actuary has relied on other experts to develop certain portions of the analysis, the reliance paragraph shall include a statement such as:

“I have relied on (name), (title) for (e.g., “anticipated cash flows from currently owned assets, including variations in cash flows according to economic scenarios” or “certain critical aspects of the analysis performed in conjunction with forming my own opinion”), as certified in the attached statement. I have reviewed the information relied upon for reasonableness.”

A statement of reliance on other experts shall be accompanied by a statement by each of the experts in the form prescribed by subsection (e) of this section.

(4) If the appointed actuary has examined the underlying asset and liability records, the reliance paragraph shall include a statement such as:

“My examination included such review of the actuarial assumptions and actuarial

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

§38a-78-7

*Insurance Department*

methods and of the underlying basic asset and liability records and such tests of the actuarial calculations as I considered necessary. I also reconciled the underlying basic asset and liability records to (exhibits and schedules listed as applicable) of the company's current annual statement."

(5) If the appointed actuary has not examined the underlying records, but has relied upon data such as listings and summaries of policies in force or asset records, prepared by the company, the reliance paragraph shall include a statement such as:

"In forming my opinion on (specify types of reserves) I relied upon data prepared by (name and title of company officer certifying in force records or other data) as certified in the attached statements. I evaluated that data for reasonableness and consistency. I also reconciled that data to (exhibits and schedules to be listed as applicable) of the company's current annual statement. In other respects, my examination included review of the actuarial assumptions and actuarial methods used and tests of the calculations I considered necessary."

The section shall be accompanied by a statement by each person relied upon in the form prescribed by subsection (e) of this section.

(6) The opinion paragraph shall include a statement such as:

"In my opinion the reserves and related actuarial values concerning the statement items identified above:

(A) are computed in accordance with presently accepted actuarial standards consistently applied and are fairly stated, in accordance with sound actuarial principles;

(B) are based on actuarial assumptions that produce reserves at least as great as those called for in any contract provision as to reserve basis and method, and are in accordance with all other contract provisions;

(C) meet the requirements of the insurance laws of the state of (state of domicile) and are at least as great as the minimum aggregate amounts required by the state in which this statement is filed;

(D) are computed on the basis of assumptions consistent with those used in computing the corresponding items in the annual statement of the preceding yearend (with any exceptions noted below); and

(E) include provision for all actuarial reserves and related statement items which ought to be established.

The reserves and related items, when considered in light of the assets held by the company with respect to such reserves and related actuarial items including, but not limited to, the investment earnings on the assets, and the considerations anticipated to be received and retained under the policies and contracts, make adequate provisions, according to presently accepted actuarial standards of practice, for the anticipated cash flows required by the contractual obligations and related expenses of the company.

The actuarial methods, considerations and analyses used in forming my opinion conform to the appropriate Standards of Practice as promulgated by the Actuarial Standards Board, which standards form the basis of this statement of opinion.

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

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*Insurance Department*

§38a-78-7

(This opinion is updated annually as required by statute. To the best of my knowledge, there have been no material changes from the applicable date of the annual statement to the date of the rendering of this opinion which should be considered in reviewing this opinion.) or (The following material changes which occurred between the date of the statement for which this opinion is applicable and the date of this opinion should be considered in reviewing this opinion: (insert description of the change or changes).

Note: Choose one of the above two paragraphs, whichever is applicable.

The impact of unanticipated events subsequent to the date of this opinion is beyond the scope of this opinion. The analysis of asset adequacy portion of this opinion should be viewed recognizing that the company's future experience may not follow all the assumptions used in the analysis.

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Signature of Appointed Actuary

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Address of Appointed Actuary

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Telephone Number of Appointed Actuary

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Date"

(c) **Assumptions for New Issues.** The adoption for new issues or new claims or other new liabilities of an actuarial assumption that differs from a corresponding assumption used for prior new issues or new claims or other new liabilities is not a change in actuarial assumptions within the meaning of this section.

(d) **Adverse Opinions.** If the appointed actuary is unable to form an opinion, then he or she shall refuse to issue a statement of actuarial opinion. If the appointed actuary's opinion is adverse or qualified, then he or she shall issue an adverse or qualified actuarial opinion explicitly stating the reasons for the opinion. This statement shall follow the scope paragraph and precede the opinion paragraph.

(e) **Reliance on Information Furnished by Other Persons.** If the appointed actuary relies on the certification of others on matters concerning the accuracy or completeness of any data underlying the actuarial opinion, or the appropriateness of any other information used by the appointed actuary in forming the actuarial opinion, the actuarial opinion shall so indicate the persons the appointed actuary is relying upon and a precise identification of the items subject to reliance. In addition, the persons on whom the appointed actuary relies shall provide a certification that precisely identifies the items on which the person is providing information and a statement as to the accuracy, completeness or reasonableness,

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

§38a-78-7

*Insurance Department*

as applicable, of the items. This certification shall include the signature, title, company, address and telephone number of the person rendering the certification, as well as the date on which it is signed.

**(f) Alternate Opinion.**

(1) As an alternative to the requirements of subparagraph (C) of subdivision (6) of subsection (b) of this section, the commissioner may make one or more of the following additional approaches available to the opining actuary: (A) A statement that the reserves “meet the requirements of the insurance laws and regulations of (the state of domicile) and the formal written standards and conditions of this state for filing an opinion based on the law of the state of domicile.” If the commissioner chooses to allow this alternative, a formal written list of standards and conditions shall be made available to all insurers. If a company chooses to use this alternative, the standards and conditions in effect on July 1 of a calendar year shall apply to statements for that calendar year, and they shall remain in effect until they are revised or revoked. If no list is available, this alternative is not available; (B) A statement that the reserves “meet the requirements of the insurance laws and regulations of (the state of domicile) and I have verified that the company’s request to file an opinion based on the law of the state of domicile has been approved and that any conditions required by the commissioner for approval of that request has been met.” If the commissioner chooses to allow this alternative, a formal written statement of such allowance shall be issued no later than March 31 of the year it is first effective. It shall remain valid until rescinded or modified by the commissioner. The rescission or modifications shall be issued no later than March 31 of the year they are first effective. Subsequent to that statement being issued, if a company chooses to use this alternative, the company shall annually file a request to do so, along with justification for its use, no later than April 30 of the year in which the opinion is to be filed. The request shall be deemed approved on October 1 of that year if the commissioner has not denied the request by that date; (C) A statement that the reserves “meet the requirements of the insurance laws and regulations of (the state of domicile) and I have submitted the required comparison as specified by this state.” (i) If the commissioner chooses to allow this alternative, a formal written list of products, to be added to the table set forth in subparagraph C(ii) of this subdivision, for which the required comparison is to be provided, will be published. If a company chooses to use this alternative, the list in effect on July 1 of a calendar year shall apply to statements for that calendar year, and it shall remain in effect until it is revised or revoked. If no list is available, this alternative is not available. (ii) If a company chooses to use this alternative, the appointed actuary shall provide a comparison of the gross nationwide reserves held to the gross nationwide reserves that would be held under the NAIC codification standards. Gross nationwide reserves are the total reserves calculated for the total company in force business directly sold and assumed, indifferent to the state in which the risk resides, without reduction for reinsurance ceded. The information provided shall include, at a minimum:

Regulations of Connecticut State Agencies

TITLE 38a. Insurance Department

Insurance Department

§38a-78-9

(1) Product Type	(2) Death Benefit or Account Value	(3) Reserves Held	(4) Codification Reserves	(5) Codification Standard

(iii) The information listed shall include all products identified by either the state of filing or any other states subscribing to this alternative. (iv) If there is no codification standard for the type of product or risk in force or if the codification standard does not directly address the type of product or risk in force, the appointed actuary shall provide detailed disclosure of the specific method and assumptions used in determining the reserves held. (v) The comparison provided by the company shall be kept confidential to the same extent and under the same conditions as the actuarial memorandum.

(2) Notwithstanding subsection (f)(1) of this section, the commissioner may reject an opinion based on the laws and regulations of the state of domicile and require an opinion based on the laws of Connecticut. If a company is unable to provide the opinion within sixty (60) days of such request or such other period of time determined by the commissioner after consultation with the company, the commissioner may contract with an independent actuary at the company's expense to prepare and file the opinion.

(Effective September 28, 1993; Amended December 23, 2008)

**Sec. 38a-78-8. Repealed**

Repealed December 23, 2008.

**Sec. 38a-78-9. Description of an actuarial memorandum including an asset adequacy analysis and a regulatory asset adequacy issues summary**

(a) **General.**

(1) In accordance with subsection (b) of section 38a-78 of the Standard Valuation Law, the appointed actuary shall prepare a memorandum to the company describing the analysis done in support of his or her opinion regarding the reserves under an opinion pursuant to section 38a-78-7 the Regulations of Connecticut State Agencies. The memorandum shall be made available for examination by the commissioner upon his or her request but shall be returned to the company after such examination and shall not be considered a record of the insurance department or subject to automatic filing with the commissioner.

(2) In preparing the memorandum, the appointed actuary may rely on, and include as a part of his or her own memorandum, memoranda prepared and signed by other actuaries who are qualified within the meaning of subsection (b) of section 38a-78-5 of the Regulations of Connecticut State Agencies with respect to the areas covered in such memoranda, and so state in their memoranda.

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

§38a-78-9

*Insurance Department*

(3) If the commissioner requests a memorandum and no such memorandum exists or if the commissioner finds that the analysis described in the memorandum fails to meet the standards of the Actuarial Standards Board or the standards and requirements of this section, the commissioner may designate a qualified actuary to review the opinion and prepare such supporting memorandum as is required for review. The reasonable and necessary expense of such independent review shall be paid by the company but shall be directed and controlled by the commissioner.

(4) The reviewing actuary shall have the same status as an examiner for purposes of obtaining data from the company and the work papers and documentation of such reviewing actuary shall be retained by the commissioner; provided, however, that any information provided by the company to such reviewing actuary and included in the work papers shall be considered as material provided by the company to the commissioner and shall be kept confidential to the same extent as is prescribed by law with respect to other material provided by the company to the commissioner pursuant to section 38a-78 of the general statutes. The reviewing actuary shall not be an employee of a consulting firm involved with the preparation of any prior memorandum or opinion for the insurer pursuant to section 38a-78-5 of the Regulations of the Connecticut State Agencies for any one of the current year or the preceding three years.

(5) In accordance with subsection (b) of section 38a-78 of the Standard Valuation Law, the appointed actuary shall prepare a regulatory asset adequacy issues summary, the contents of which are specified in subsection (c) of this section. The regulatory asset adequacy issues summary shall be submitted no later than March 15 of the year following the year for which a statement of actuarial opinion based on asset adequacy is required. The regulatory asset adequacy issues summary shall be kept confidential to the same extent and under the same conditions as the actuarial memorandum.

**(b) Details of the Memorandum Section Documenting Asset Adequacy Analysis.** When an actuarial opinion under section 38a-78-7 of the Regulations of Connecticut State Agencies is provided, the memorandum shall demonstrate that the analysis has been done in accordance with the standards for asset adequacy analysis referred to in subsection (d) of section 38a-78-5 of the Regulations of Connecticut State Agencies and any additional standards under this regulation. It shall specify:

- (1) for reserves:
  - (A) product descriptions, including market description, underwriting and other aspects of a risk profile and the specific risks the appointed actuary deems significant;
  - (B) source of liability in force;
  - (C) reserve method and basis;
  - (D) investment reserves;
  - (E) reinsurance arrangements;
  - (F) identification of any explicit or implied guarantees made by the general account in support of benefits provided through a separate account or under a separate account policy or contract and the methods used by the appointed actuary to provide for the guarantees in

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

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*Insurance Department*

§38a-78-9

the asset adequacy analysis; and

(G) documentation of assumptions to test reserves for the following:

- (i) lapse rates (both base and excess);
- (ii) interest crediting rate strategy;
- (iii) mortality;
- (iv) policyholder dividend strategy;
- (v) competitor or market interest rate;
- (vi) annuitization rates;
- (vii) commission and expenses;
- (viii) morbidity.

The documentation of the assumptions shall be such that an actuary reviewing the actuarial memorandum could form a conclusion as to the reasonableness of the assumptions.

(2) for assets:

(A) portfolio descriptions, including a risk profile disclosing the quality, distribution and types of assets;

(B) investment and disinvestment assumptions;

(C) source of asset data;

(D) asset valuation bases; and

(E) documentation of assumptions made for:

(i) default costs;

(ii) bond call function;

(iii) mortgage prepayment function;

(iv) determining market value for assets sold due to disinvestment strategy; and

(v) determining yield on assets acquired through the investment strategy.

The documentation of the assumptions shall be such that an actuary reviewing the actuarial memorandum could form a conclusion as to the reasonableness of the assumptions.

(3) for the analysis basis:

(A) methodology;

(B) rationale for the inclusion/exclusion of different blocks of business and how pertinent risks were analyzed;

(C) rationale for degree of rigor in analyzing different blocks of business, including the level of materiality that was used in determining how rigorously to analyze different blocks of business;

(D) criteria for determining asset adequacy, including the precise basis for determining if assets are adequate to cover reserves under “moderately adverse conditions” or other conditions as specified in relevant actuarial standards of practice; and

(E) whether the impact of federal income taxes was considered and the method of treating reinsurance in the asset adequacy analysis.

(4) summary of material changes in methods, procedures, or assumptions from prior year’s asset adequacy analysis;

(5) summary of results; and

(6) conclusion.

(c) **Details of the Regulatory Asset Adequacy Issues Summary.**

(1) The regulatory asset adequacy issues summary shall include:

(A) descriptions of the scenarios tested, including whether those scenarios are stochastic or deterministic, and the sensitivity testing done relative to those scenarios. If negative ending surplus results under certain tests in the aggregate, the actuary shall describe those tests and the amount of additional reserve as of the valuation date which, if held, would eliminate the negative aggregate surplus values. Ending surplus values shall be determined by either extending the projection period until the in force and associated assets and liabilities at the end of the projection period are immaterial, or by adjusting the surplus amount at the end of the projection period by an amount that appropriately estimates the value that can reasonably be expected to arise from the assets and liabilities remaining in force;

(B) the extent to which the appointed actuary uses assumptions in the asset adequacy analysis that are materially different than the assumptions used in the previous asset adequacy analysis;

(C) the amount of reserves and the identity of the product lines that had been subjected to asset adequacy analysis in the prior opinion but were not subject to analysis for the current opinion;

(D) comment on any interim results that may be of significant concern to the appointed actuary;

(E) the methods used by the actuary to recognize the impact of reinsurance on the company's cash flows, including both assets and liabilities, under each of the scenarios tested; and

(F) whether the actuary is satisfied that all options, whether explicit or embedded, in any asset or liability, including but not limited to those affecting cash flows embedded in fixed income securities, and equity-like features in any investments have been appropriately considered in the asset adequacy analysis.

(2) The regulatory asset adequacy issues summary shall contain the name of the company for which the regulatory asset adequacy issues summary is being supplied and shall be signed and dated by the appointed actuary rendering the actuarial opinion.

(d) **Conformity to Standards of Practice.** The memorandum shall include the following statement:

“Actuarial methods, considerations and analyses used in the preparation of this memorandum conform to the appropriate Standards of Practice as promulgated by the Actuarial Standards Board, which standards form the basis for this memorandum.”

(Effective September 28, 1993; Amended December 23, 2008)

**Sec. 38a-78-10. Repealed**

Repealed December 23, 2008.



**Minimum Reserve Standards for Individual and Group Health Insurance Contracts**

**Sec. 38a-78-11. Introduction**

(a) **Scope.** Sections 38a-78-11 to 38a-78-16, inclusive, of these regulations shall apply to all individual and group health (accident and sickness) insurance coverages, including, but not limited to, single premium credit disability insurance. All other credit insurance is not subject to this regulation.

When an insurer determines that adequacy of its health insurance reserves requires reserves in excess of the minimum standards specified herein, such increased reserves shall be held and shall be considered the minimum reserves for that insurer.

With respect to any block of contracts, or with respect to an insurer's health business as a whole, a prospective gross premium valuation is the ultimate test of reserve adequacy as of a given valuation date. Such a gross premium valuation will take into account, for contracts in force, in a claims status, or in a continuation of benefits status on the valuation date, the present value as of the valuation date of: all expected benefits unpaid, all expected expenses unpaid, and all unearned or expected premiums, adjusted for future premium increases reasonably expected to be put into effect.

Such a gross premium valuation is to be performed whenever a significant doubt exists as to reserve adequacy with respect to any major block of contracts, or with respect to the insurer's health business as a whole. In the event inadequacy is found to exist, immediate loss recognition shall be made and the reserves restored to adequacy. Adequate reserves (inclusive of claim, premium and contract reserves, if any) shall be held with respect to all contracts, regardless of whether contract reserves are required for such contracts under these standards.

Whenever minimum reserves, as defined in these standards, exceed reserve requirements as determined by a prospective gross premium valuation, such minimum reserves remain the minimum requirement under these standards.

(b) **Categories of Reserves.** The following sections set forth minimum standards for three categories of health insurance reserves:

Sec. 38a-78-13. Claim reserves

Sec. 38a-78-14. Premium reserves

Sec. 38a-78-15. Contract reserves

Adequacy of an insurer's health insurance reserves is to be determined on the basis of all three categories combined. However, these standards emphasize the importance of determining appropriate reserves for each of the three categories separately.

(c) **Appendices.** These standards contain two appendices: one is an integral part of the standards, and one is a "supplementary" appendix which is not part of the standards as such, but is included for explanatory and illustrative purposes only.

Appendix A. Specific minimum standards with respect to morbidity, mortality and interest, which apply to claim reserves according to year of incurral and to contract reserves according to year of issue.

Appendix B. (Supplementary) Waiver of Premium Reserves.

(Effective September 28, 1993; Amended August 31, 2018)

**Sec. 38a-78-12. Definitions**

As used in Sections 38a-78-11 to 38a-78-16, inclusive, of these regulations:

(a) “Annual-Claim Cost” means the net annual cost per unit of benefit before the addition of expenses, including claim settlement expenses, and a margin for profit or contingencies. For example, the annual claim cost for a \$100 monthly disability benefit, for a maximum disability benefit period of one year, with an elimination period of one week, with respect to a male at age 35, in a certain occupation might be \$12, while the gross premium for this benefit might be \$18. The additional \$6 would cover expenses and profit or contingencies.

(b) “Claims Accrued” means that portion of claims incurred on or prior to the valuation date which result in liability of the insurer for the payment of benefits for medical services which have been rendered on or prior to the valuation date, and for the payment of benefits for days of hospitalization and days of disability which have occurred on or prior to the valuation date, which the insurer has not paid as of the valuation date, but for which it is liable, and will have to pay after the valuation date. This liability is sometimes referred to as a liability for “accrued” benefits. A claim reserve, which represents an estimate of this accrued claim liability, shall be established.

(c) “Claims Reported” means when an insurer has been informed that a claim has been incurred, if the date reported is on or prior to the valuation date, the claim is considered as a reported claim for annual statement purposes.

(d) “Claims Unaccrued” means that portion of claims incurred on or prior to the valuation date which result in liability of the insurer for the payment of benefits for medical services expected to be rendered after the valuation date, and for benefits expected to be payable for days of hospitalization and days of disability occurring after the valuation date. This liability is sometimes referred to as a liability for unaccrued benefits. A claim reserve, which represents an estimate of the unaccrued claim payments expected to be made (which may or may not be discounted with interest), shall be established.

(e) “Claims Unreported” means when an insurer has not been informed, on or before the valuation date, concerning a claim that has been incurred on or prior to the valuation date, the claim is considered as an unreported claim for annual statement purposes.

(f) “Date of Disablement” means the earliest date the insured is considered as being disabled under the definition of disability in the contract, based on a doctor’s evaluation or other evidence. Normally this date will coincide with the start of any elimination period.

(g) “Elimination Period” means a specified number of days, weeks, or months starting at the beginning of each period of loss, during which no benefits are payable.

(h) “Guarantee Duration” of a health insurance contract is the maximum number of years the health insurance contract can remain in force on the basis guaranteed in the contract.

(i) “Gross Premium” means the amount of premium charged by the insurer. It includes the net premium (based on claim-cost) for the risk, together with any loading for expenses,

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

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*Insurance Department*

§38a-78-12

profit or contingencies.

(j) “Group Insurance” includes blanket insurance and franchise insurance and any other forms of group insurance.

(k) “Group Long-Term Disability Income Insurance” includes group contracts providing group disability income coverage with a maximum benefit duration that is longer than two years. Group long-term disability income contracts are based on a group pricing structure. Group long-term disability income insurance does not include group short-term disability coverage (coverage with benefit periods not longer than two years in duration), or voluntary group disability income coverage that is priced on an individual risk structure and generally sold in the workplace.

(l) “Level Premium” means a premium calculated to remain unchanged throughout either the lifetime of the policy, or for some shorter projected period of years. The premium need not be guaranteed; in which case, although it is calculated to remain level, it may be changed if any of the assumptions on which it was based are revised at a later time. Generally, the annual claim costs are expected to increase each year and the insurer, instead of charging premiums that correspondingly increase each year, charges a premium calculated to remain level for a period of years or for the lifetime of the contract. In this case the benefit portion of the premium is more than is needed to provide for the cost of benefits during the earlier years of the policy and less than the actual cost in the later years. The building of a prospective contract reserve is a natural result of level premiums.

(m) “Long-Term Care Insurance” means any insurance policy or rider advertised, marketed, offered or designed to provide coverage for not less than twelve consecutive months for each covered person on an expense incurred, indemnity, prepaid or other basis; for one or more necessary or medically necessary diagnostic, preventive, therapeutic, rehabilitative, maintenance or personal care services, provided in a setting other than an acute care unit of a hospital. Such term also includes a policy or rider which provides for payment of benefits based upon cognitive impairment or the loss of functional capacity. Long-term care insurance may be issued by insurers, fraternal benefit societies, nonprofit health, hospital, and medical service corporations, prepaid health plans, health care centers, or any similar organization to the extent they are otherwise authorized to issue life or health insurance. Long-term care insurance shall not include any insurance policy which is offered primarily to provide basic Medicare supplement coverage, basic hospital expense coverage, basic medical-surgical expense coverage, hospital confinement indemnity coverage, major medical expense coverage, disability income or related asset-protection coverage, disability income or related asset-protection coverage, accident only coverage, specified disease or specified accident coverage, or limited benefit health coverage.

(n) “Modal Premium” means the premium paid on a contract based on a premium term which could be annual, semi-annual, quarterly, monthly, or weekly. Thus, if the annual premium is \$100 and if, instead, monthly premiums of \$9 are paid then the modal premium is \$9.

(o) “Negative Reserve” means the value of the terminal reserve when it is a negative

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

§38a-78-12

*Insurance Department*

value. Normally the terminal reserve is a positive value. However, if the values of the benefits are decreasing with advancing age or duration it could be a negative value, called a negative reserve.

(p) “Preliminary Term Reserve Method” means that the valuation net premium for each year falling within the preliminary term period is exactly sufficient to cover the expected incurred claims of that year so that the terminal reserves will be zero at the end of the year. As of the end of the preliminary term period, a new constant valuation net premium (or stream of changing valuation premiums) becomes applicable such that the present value of all such premiums is equal to the present value of all claims expected to be incurred following the end of the preliminary term period.

(q) “Present Value of Amounts Not Yet Due on Claims” means the reserve for “claims unaccrued” (see definition), which may be discounted at interest.

(r) “Rating Block” means a grouping of contracts determined by the valuation actuary based on common characteristics filed with the Commissioner, such as a policy form or forms having similar benefit designs.

(s) “Reserve” includes all items of benefit liability, whether in the nature of incurred claim liability or in the nature of contract liability relating to future periods of coverage, and whether the liability is accrued or unaccrued. An insurer under its contracts promises benefits which result in:

(1) claims which have been incurred, that is, for which the insurer has become obligated to make payment, on or prior to the valuation date. On these claims, payments expected to be made after the valuation date for accrued and unaccrued benefits are liabilities of the insurer which should be provided for by establishing claim reserves; or

(2) claims which are expected to be incurred after the valuation date. Any present liability of the insurer for these future claims should be provided for by the establishment of contract reserves and unearned premium reserves.

(t) “Single Premium Credit Disability Insurance” means insurance on a debtor to provide indemnity for payments or debt becoming due on a specific loan or other credit transaction while the debtor is disabled as defined in the policy and paid for in a single premium at the time the policy is purchased.

(u) “Terminal Reserve” means the reserve at the end of a contract year, and is defined as the present value of benefits expected to be incurred after that contract year minus the present value of future valuation net premiums.

(v) “Unearned Premium Reserve” means that portion of the premium paid or due to the insurer which is applicable to the period of coverage extending beyond the valuation date. Thus, if an annual premium of \$120 was paid on November 1, \$20 would be earned as of December 31 and the remaining \$100 would be unearned. The unearned premium reserve could be on a gross basis as in this example, or on a valuation net premium basis.

(w) “Valuation Net Modal Premium” means the modal fraction of the valuation net annual premium that corresponds to the gross modal premium in effect on any contract to which contract reserves apply. Thus, if the mode of payment in effect is quarterly, the

valuation net modal premium is the quarterly equivalent of the valuation net annual premium.

(x) “Worksite Disability Policies” means individual short-term disability policies that are sold at the worksite through employer-sponsored enrollment, cover normal pregnancy, and that have benefit periods not longer than twenty-four months. Worksite disability policies do not include (1) personal disability policies sold to an individual and not associated with employer-sponsored enrollment, or (2) business overhead expense, disability buyout, or key person policies, in whatever manner such policies are sold.

(Effective September 28, 1993; Amended August 31, 2018)

**Sec. 38a-78-13. Claim reserves**

**(a) General.**

(1) Claim reserves are required for all incurred but unpaid claims on all health insurance policies. For contracts with an elimination period, the duration of disablement shall be measured as dating from the time that benefits would have begun to accrue had there been no elimination period.

(2) Appropriate claim expense reserves are required with respect to the estimated expense of settlement of all incurred but unpaid claims.

(3) All such reserves for prior valuation years are to be tested for adequacy and reasonableness along the lines of claim runoff schedules in accordance with the statutory financial statement including consideration of any residual unpaid liability.

(4) For claim reserves on policies that require contract reserves, the claim incurral date is to be considered the “issue date” for determining the table and interest rate to be used for claim reserves.

(5) The maximum interest rate for claim reserves is specified in Appendix A.

(6) With respect to claim reserves for policies issued before the operative date of the Valuation Manual, the requirements for claim reserves on claims incurred after such operative date shall be as described in the Valuation Manual based on the incurred date of the claim.

**(b) Minimum Morbidity Standards for Individual Disability Income Claim Reserves.**

(1) Each insurer shall elect the standard set forth in subdivision (2) or (3) of this subsection and apply such standard to all open claims. Once an insurer elects to calculate reserves for all open claims on the standard defined in subdivision (2) or (3) of this subsection, all future valuations must be on that basis.

(2) Prior to the effective date for the insurer, as determined pursuant to subdivision (5) of this subsection, the minimum standards with respect to morbidity are those specified in Appendix A, except that, at the option of the insurer, assumptions regarding claim termination rates for the period less than two years from the date of disablement may be based on the insurer’s experience, if such experience is considered credible (consistent with accepted actuarial practice) by the Commissioner, or, with the approval of the

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

§38a-78-13

*Insurance Department*

Commissioner, upon other assumptions designed to place a sound value on the liabilities.

(3) For claims incurred on or after January 1, 2020, the minimum standards are those specified in Appendix A (as derived in accordance with Actuarial Guideline L, as included in the most current version of the NAIC Accounting Practices and Procedures Manual), including:

- (A) The use of the insurer's own experience;
- (B) An adjustment to include an own experience measurement margin; and
- (C) The application of a credibility factor.

(4) In determining the minimum reserves in accordance with subdivision (3) of this subsection, the provisions of subparagraphs (A) to (C), inclusive, of subdivision (3) of this subsection shall not apply if:

(A) The insurer meets the Own Experience Measurement Exemption provided in Actuarial Guideline L, as included in the most current version of the NAIC Accounting Practices and Procedures Manual; or

(B) For worksite disability policies with benefit periods of not more than two years, at the option of the insurer, disabled life reserves may be based on the insurer's experience, if such experience is considered credible (consistent with accepted actuarial practice) by the Commissioner, or, with the approval of the Commissioner, upon other assumptions and methods designed to place a sound value on the liabilities.

(5) An insurer may begin to use the minimum reserve standards described in subdivision (3) of this subsection for claims incurred earlier than January 1, 2020, but not prior to January 1, 2017.

(6) An insurer may, not later than January 1, 2023, (or such earlier date the insurer elects under subdivision (5) of this subsection) apply the new standards in subdivision (3) of this subsection to all open claims incurred prior to the effective date of subdivision (3) of this subsection for the insurer. Once an insurer elects to calculate reserves for all open claims based on subdivision (3) of this subsection, all future valuations shall be on that basis.

**(c) Minimum Morbidity Standards for Group Disability Income Claim Reserves.**

(1) For group long-term disability income claims incurred prior to the effective date selected by the company pursuant to subdivision (3) of this subsection, and group disability income claims that are not group long-term disability income, the minimum standards with respect to morbidity are those specified in Appendix A except that, at the option of the insurer:

(A) Assumptions regarding claim termination rates for the period less than three years from the date of disablement may be based on the insurer's experience, if the experience is considered credible (consistent with accepted actuarial practice) by the Commissioner, or, with the approval of the Commissioner, upon other assumptions designed to place a sound value on the liabilities.

(B) For group long-term disability income claims, the standards as defined in subdivision (2) of this subsection may be applied to all open claims.

Once an insurer elects to calculate reserves for all open claims on a more recent standard,

then all future valuations shall be on that basis.

(2) For group long-term disability income claims incurred on or after January 1, 2020, the minimum standards with respect to morbidity shall be based on the 2012 GLTD termination table, or a subsequent table, with consideration of:

(A) The insurer's own experience computed in accordance with Actuarial Guideline XLVII, as included in the most current version of the NAIC Accounting Practices and Procedures Manual;

(B) An adjustment to include an own experience measurement margin derived in accordance with Actuarial Guideline XLVII, as included in the most current version of the NAIC Accounting Practices and Procedures Manual; and

(C) A credibility factor derived in accordance with Actuarial Guideline XLVII, as included in the most current version of the NAIC Accounting Practices and Procedures Manual.

(3) An insurer may begin to use the minimum reserve standards set forth in subdivision (2) of this subsection at a date earlier than January 1, 2020, but not prior to the effective date of this regulation. An insurer may apply the standards in subdivision (2) of this subsection to all open claims incurred prior to the effective date of subdivision (2) of this subsection for the insurer. Once an insurer elects to calculate reserves for all open claims based the standards set forth in subdivision (2) of this subsection, all future valuations shall be on the basis of said standards.

(d) **Minimum Morbidity Standard for Other Health Insurance Claim Reserves.** The reserve should be based on the insurer's experience, if the experience is considered credible (consistent with accepted actuarial practice) by the Commissioner, or, with the approval of the Commissioner, upon other assumptions designed to place a sound value on the liabilities.

(e) **Claim Reserve Methods Generally.** A generally accepted actuarial reserving method, or a combination of generally accepted methods, may be used to estimate all claim liabilities. Any other reasonable method, if the method is approved by the Commissioner prior to the statement date, may be used to estimate all claim liabilities. The methods used for estimating liabilities generally may be aggregate methods, or various reserve items may be separately valued. Approximations based on groupings and averages may also be employed. Adequacy of the claim reserves, however, shall be determined in the aggregate.

(Effective September 28, 1993; Amended December 2, 1998; Amended August 31, 2018)

#### **Sec. 38a-78-14. Premium reserves**

(a) **General.**

(1) Except as noted in subdivision (2) of this subsection, unearned premium reserves are required for all contracts with respect to the period of coverage for which premiums, other than premiums paid in advance, have been paid beyond the date of valuation.

(2) Single premium credit disability insurance, both individual and group, is excluded from the unearned premium reserve requirements of this section.

(3) If premiums due and unpaid are carried as an asset, such premiums shall be treated

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

§38a-78-15

*Insurance Department*

as premiums in force, subject to unearned premium reserve determination. The value of unpaid commissions, premium taxes, and the cost of collection associated with due and unpaid premiums shall be carried as an offsetting liability.

(4) The gross premiums paid in advance for a period of coverage commencing after the next premium due date which follows the date of valuation may be appropriately discounted to the valuation date and shall be held either as a separate liability or as an addition to the unearned premium reserve which would otherwise be required as a minimum.

**(b) Minimum Standards for Unearned Premium Reserves.**

(1) The minimum unearned premium reserve with respect to any contract is the pro rata unearned modal premium that applies to the premium period beyond the valuation date, with such premium determined on the basis of:

(A) The valuation net modal premium on the contract reserve basis applying to the contract; or

(B) The gross modal premium for the contract if no contract reserve applies.

(2) However, in no event may the sum of the unearned premium and contract reserves for all contracts of the insurer subject to contract reserve requirements be less than the gross modal unearned premium reserve on all such contracts, as of the date of valuation. Such reserve shall never be less than the expected claims for the period beyond the valuation date represented by such unearned premium reserve, to the extent not provided for elsewhere.

**(c) Premium Reserve Methods Generally.** The insurer may employ suitable approximations and estimates, including, but not limited to groupings, averages and aggregate estimation, in computing premium reserves. Such approximations or estimates should be tested periodically to determine their continuing adequacy and reliability.

(Effective September 28, 1993; Amended August 31, 2018)

**Sec. 38a-78-15. Contract reserves**

**(a) General.**

(1) Contract reserves are required, unless otherwise specified in subdivision (2) of this subsection, for:

(A) all individual and group contracts with which level premiums are used; or

(B) all individual and group contracts with respect to which, due to the gross premium pricing structure at issue, the value of the future benefits at any time exceeds the value of any appropriate future valuation net premiums at that time. A valuation under this subparagraph may be applied on a rating block basis if the total premiums for the rating block were developed to support the total risk assumed and expected expenses for the block each year, and a qualified actuary certifies the premium development. The actuary should state in the certification that premiums for the rating block were developed such that each year's premium was intended to cover that year's costs without any prefunding. If the premium is also intended to recover costs for any prior years, the actuary should also disclose the reasons for and magnitude of such recovery. The values specified in this subparagraph shall be determined on the basis specified in subsection (b) of this section.



*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

*Insurance Department*

§38a-78-15

- (2) Contracts not requiring a contract reserve are:
- (A) Contracts which are not guaranteed renewable after one year from issue; or
  - (B) Contracts already in force on the effective date of these standards for which no contract reserve was required under the immediately preceding standards.
- (3) The contract reserve is in addition to claim reserves and premium reserves.
- (4) The methods and procedures for contract reserves shall be consistent with those for claim reserves for any contract, or else appropriate adjustment shall be made when necessary to assure provision for the aggregate liability. The definition of the date of incurral shall be the same in both determinations.
- (5) The total contract reserve established shall incorporate provisions for moderately adverse deviations.

**(b) Minimum Standards for Contract Reserves.**

- (1) Basis.
- (A) Morbidity or other Contingency. Minimum standards with respect to morbidity are those set forth in Appendix A. Valuation net premiums used under each contract must have a structure consistent with the gross premium structure at issue of the contract as this relates to the advancing age of insured, contract duration and period for which gross premiums have been calculated. Contracts for which tabular morbidity standards are not specified in Appendix A shall be valued using tables established for reserve purposes by a qualified actuary and acceptable to the Commissioner. The morbidity tables shall contain a pattern of incurred claims cost that reflects the underlying morbidity and shall not be constructed for the primary purpose of minimizing reserves.
- (i) In determining the morbidity assumptions, the actuary shall use assumptions that represent the best estimate of anticipated future experience, but shall not incorporate any expectation of future morbidity improvement. Morbidity improvement is a change, in the combined effect of claim frequency and the present value of future expected claim payments given that a claim has occurred, from the current morbidity tables or experience that will reduce reserves. It is not the intent of this subparagraph to restrict the ability of the actuary to reflect the morbidity impact for a specific known event that has occurred and that is able to be evaluated and quantified.
- (ii) Business in force as of the effective date of subparagraph (C)(ii) of this subdivision may, if acceptable to the Commissioner, retain an original reserve basis which may not satisfy the requirements of subparagraph (A)(i) of this subdivision.
- (B) Interest. The maximum interest rate is specified in Appendix A.
- (C) Termination Rates. Termination rates used in the computation of reserves shall be on the basis of a mortality table as specified in Appendix A except:
- (i) Under contracts for which premium rates are not guaranteed, and where the effects of insurer underwriting are specifically used by policy duration in the valuation morbidity standard, or for return of premium or other deferred cash benefits, total termination rates may be used at ages and durations where these exceed specified mortality table rates, but not in excess of the lesser of:

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

§38a-78-15

*Insurance Department*

(I) eighty percent (80%) of the total termination rate used in the calculation of the gross premiums; or

(II) eight percent (8%).

(ii) For long-term care individual policies or group certificates issued on or after the effective date of this regulation, the contract reserve shall be established on the basis of:

(I) Mortality (as specified in Appendix A); and

(II) Terminations other than mortality, where the terminations shall not exceed:

- For policy year one (1), the lesser of eighty percent (80%) of the voluntary lapse rate used in the calculation of gross premiums and six percent (6%);

- For policy years two (2) through four (4), the lesser of eighty percent (80%) of the voluntary lapse rate used in the calculation of gross premiums and four percent (4%); and

- For policy years five (5) and later, the lesser of one hundred percent (100%) of the voluntary lapse rate used in the calculation of gross premiums and two percent (2%), except for group insurance where the two percent (2%) shall be three percent (3%). For purposes of this subparagraph, group insurance means a long-term care insurance policy that is delivered or issued for delivery in this state to one or more employers or labor organizations, to a trust or the trustees of a fund established by one or more employers or labor organizations, or a combination thereof, for employees or former employees, or a combination thereof, or for members or former members, or a combination thereof, of the labor organizations.

(iii) Where a morbidity standard specified in Appendix A is on an aggregate basis, the morbidity standard may be adjusted to reflect the effect of insurer underwriting by policy duration. The adjustments shall be appropriate to the underwriting and acceptable to the Commissioner.

(2) Reserve Method.

(A) For insurance, except long-term care and return of premium or other deferred cash benefits, the minimum reserve is the reserve calculated on the two-year full preliminary term method; that is, under which the terminal reserve is zero at the first and also the second contract anniversary.

(B) For long-term care insurance, the minimum reserve is the reserve calculated on the one-year full preliminary term method.

(C) For return of premium or other deferred cash benefits, the minimum reserve is the reserve calculated as follows:

(i) On the one year preliminary term method if such benefits are provided at any time before the twentieth anniversary;

(ii) On the two year preliminary term method if such benefits are only provided on or after the twentieth anniversary.

The preliminary term method may be applied only in relation to the date of issue of a contract. Reserve adjustments introduced later, as a result of rate increases, revisions in assumptions (e.g., projected inflation rates) or for other reasons, are to be applied immediately as of the effective date of adoption of the adjusted basis.

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

*Insurance Department*

*§38a-78-16*

(3) **Negative Reserves.** Negative reserves on any benefit may be offset against positive reserves for other benefits in the same contract, but the total contract reserve with respect to all benefits combined may not be less than zero.

(4) **Nonforfeiture Benefits for Long-Term Care Insurance.** For long-term care individual policies or group certificates issued on or after the effective date of this regulation, the contract reserve on a policy basis shall not be less than the net single premium for the nonforfeiture benefits at the appropriate policy duration, where the net single premium is computed according to the specifications set forth in this subsection.

(c) **Alternative Contract Reserve Valuation Methods and Assumptions Generally.** Provided the contract reserve on all contracts to which an alternative method or basis is applied is not less in the aggregate than the amount determined according to the applicable standards specified above, an insurer may use any reasonable assumptions as to interest rates, termination and/or mortality rates, and rates of morbidity or other contingency. Also, subject to the preceding condition, the insurer may employ methods other than the methods stated above in determining a sound value of its liabilities under such contracts, including, but not limited to the following: the net level premium method; the one-year full preliminary term method; prospective valuation on the basis of actual gross premiums with reasonable allowance for future expenses; the use of approximations such as those involving age groupings, groupings of several years of issue, average amounts of indemnity, grouping of similar contract forms; the computation of the reserve for one contract benefit as a percentage of, or by other relation to, the aggregate contract reserves exclusive of the benefit or benefits so valued; and the use of a composite annual claim cost for all or any combination of the benefits included in the contracts valued.

(d) **Tests For Adequacy and Reasonableness of Contract Reserves.** Annually, an appropriate review shall be made of the insurer's prospective contract liabilities on contracts valued by tabular reserves to determine the continuing adequacy and reasonableness of the tabular reserves giving consideration to future gross premiums. The insurer shall make appropriate increments to such tabular reserves if such tests indicate that the basis of such reserves is no longer adequate; subject, however, to the minimum standards of subsection (b) of this section.

In the event a company has a contract or a group of related similar contracts, for which future gross premiums will be restricted by contract, insurance department regulations, or for other reasons, such that the future gross premiums reduced by expenses for administration, commissions, and taxes will be insufficient to cover future claims, the company shall establish contract reserves for such shortfall in the aggregate.

(Effective September 28, 1993; Amended August 31, 2018)

**Sec. 38a-78-16. Reinsurance**

Increases or offsetting credits to reserves because of reinsurance assumed or reinsurance ceded, must be determined in a manner consistent with minimum reserve standards and with all applicable provisions of the reinsurance contracts which affect the insurer's

liabilities.

(Effective September 28, 1993)

**Sec. Appendix A. Specific Standards for Morbidity, Interest and Mortality**

**I. Morbidity.**

(a) Minimum morbidity standards for valuation of specified individual contract health insurance benefits are as follows (references to Commissioners' Table refers to the valuation table version as opposed to the basic table version as applicable):

(1) Disability Income Benefits Due to Accident or Sickness.

(A) Contract Reserves:

Contracts issued on or after January 1, 1965 and prior to January 1, 1986:

The 1964 Commissioners Disability Table (64 CDT).

Contracts issued on or after January 1, 1994 and before January 1, 2020:

The 1985 Commissioners Individual Disability Tables A (85CIDA); or

The 1985 Commissioners Individual Disability Tables B (85CIDB).

Contracts issued during 1986 through 1993:

Optional use of either the 1964 Table or the 1985 Tables.

Each insurer shall elect, with respect to all individual contracts issued in any one statement year, whether it will use Tables A or Tables B as in the minimum standard. The insurer may, however, elect to use other tables with respect to any subsequent statement year.

Contracts issued on or after January 1, 2020:

The 2013 IDI Valuation Table with modifiers as described in Actuarial Guideline L, as included in the most current version of the NAIC Accounting Practices and Procedures Manual.

An insurer may begin to use the 2013 IDI Valuation Table with modifiers at a date earlier than January 1, 2020, but not prior to January 1, 2017.

Not later than January 1, 2023, or an earlier date that an insurer begins to use the 2013 IDI Valuation Table, the insurer may elect to apply such 2013 IDI Valuation Table for all policies issued subject to other valuation tables, if:

(i) The insurer applies such 2013 IDI Valuation Table to all in-force policies and incurred claims;

(ii) The insurer applies, or elects to apply, the 2013 IDI Valuation Table to all claims incurred regardless of incurred date;

(iii) The insurer maintains adequate policy records on policies issued prior to January 1, 2020, that allow the insurer to apply the 2013 IDI Valuation Table appropriately; and

(iv) Once an insurer elects to calculate reserves for all in-force policies based on such 2013 IDI Valuation Table, all future valuations shall be calculated on that basis.

(B) Claim Reserves:

(i) For claims incurred on or after January 1, 2017 and prior to January 1, 2020:

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

*Insurance Department*

*§Appendix A*

The 1985 Commissioners Individual Disability Table A (85CIDA) with claim termination rates multiplied by the following adjustment factors:

<b>Duration</b>	<b>Adjustment Factor</b>	<b>Adjusted Termination Rates*</b>
Week 1	0.366	0.04831
2	0.366	0.04172
3	0.366	0.04063
4	0.366	0.04355
5	0.365	0.04088
6	0.365	0.04271
7	0.365	0.04380
8	0.365	0.04344
9	0.370	0.04292
10	0.370	0.04107
11	0.370	0.03848
12	0.370	0.03478
13	0.370	0.03034
Month 4	0.391	0.08758
5	0.371	0.07346
6	0.435	0.07531
7	0.500	0.07245
8	0.564	0.06655
9	0.613	0.05520
10	0.663	0.04705
11	0.712	0.04486
12	0.756	0.04309
13	0.800	0.04080
14	0.844	0.03882
15	0.888	0.03730
16	0.932	0.03448

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

*§Appendix A*

*Insurance Department*

<b>Duration</b>	<b>Adjustment Factor</b>	<b>Adjusted Termination Rates*</b>
17	0.976	0.03026
18	1.020	0.02856
19	1.049	0.02518
20	1.078	0.02264
21	1.107	0.02104
22	1.136	0.01932
23	1.165	0.01865
24	1.195	0.01792
Year 3	1.369	0.16839
4	1.204	0.10114
5	1.199	0.07434
6 and later	1.000	**

\* The adjusted termination rates derived from the application of the adjustment factors to the DTS Valuation Table termination rates shown in exhibits 3a, 3b, 3c, 4 and 5 (Transactions of the Society of Actuaries (TSA) XXXVII, pp. 457-463) is displayed. The adjustment factors for age, elimination period, class, sex and cause displayed in exhibits 3a, 3b, 3c and 4 should be applied to the adjusted termination rates shown in this table.

\*\* Applicable DTS Valuation Table duration rate from exhibits 3c and 4 (TSA XXXVII, pp. 462-463).

The 85CIDA table so adjusted for the computation of claim reserves shall be known as 85CIDC (The 1985 Commissioners Individual Disability Table C).

For claims incurred on or after January 1, 2020, the 2013 IDI Valuation Table with modifiers and adjustments for company experience as prescribed in the Actuarial Guideline L, as included in the most current version of the NAIC Accounting Practices and Procedures Manual, except for worksite disability policies with benefit periods of twenty-four months or less.

(ii) For worksite disability policies, claim reserves may be calculated using claim run-out analysis or claim triangles, or other methods that place a sound value on the reserves that are appropriate for the business and risks involved.

(iii) Each insurer may elect which of the following to use as the minimum standard for claims incurred prior to January 1, 2017:

(I) The minimum morbidity standard in effect for contract reserves on currently issued contracts, as of the date the claim is incurred; or

(II) The standard as defined in Appendix A, subsection (a)(1)(B)(i) or (ii) of this section

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

*Insurance Department*

*§Appendix A*

I Morbidity, applied to all open non-worksites claims, provided the insurer maintains adequate claim records to allow the insurer to apply the standard defined in Appendix A, subsection (a)(1)(B)(i) or (ii) of this section I Morbidity appropriately. Once an insurer elects to calculate reserves for all open claims on the standard defined in Appendix A, subsection (a)(1)(B)(i) or (ii) of this section I Morbidity, all future valuations shall be on that basis. This option, with respect to Appendix A, subsection (a)(1)(B)(ii) of this section I Morbidity, may be selected only if the insurer maintains adequate claim records for all claims incurred to use the 2013 IDI Valuation Table appropriately.

(2) Hospital Benefits, Surgical Benefits and Maternity Benefits (Scheduled benefits or fixed time period benefits only).

(A) Contract Reserves:

Contracts issued on or after January 1, 1955, and before January 1, 1982:

The 1956 Intercompany Hospital-Surgical Tables.

Contracts issued on or after January 1, 1982:

The 1974 Medical Expense Tables, Table A, Transactions of the Society of Actuaries, Volume XXX, pg. 63. Refer to the paper (in the same volume, pg. 9) to which this table is appended, including its discussions, for methods of adjustment for benefits not directly valued in Table A: "Development of the 1974 Medical Expense Benefits," Houghton and Wolf.

(B) Claim Reserves:

No specific standard. See subdivision (6) of this subsection.

(3) Cancer Expense Benefits.

(A) Contract Reserves:

(i) Contracts issued on or after January 1, 1986 and before January 1, 2019:

The 1985 NAIC Cancer Claim Cost Tables (1985 CCCT).

(ii) Contracts issued on or after January 1, 2019:

(I) For first occurrence and hospitalization benefits:

The 2016 Cancer Claim Cost Valuation Tables (2016 CCCVT).

(II) For all other benefits:

Assumptions based on company experience, relevant industry experience, and actuarial judgment. Such assumptions should be appropriate for valuation which considers margin for adverse experience.

(iii) For contracts issued on or after January 1, 2018 and before January 1, 2019, a company may elect to use morbidity basis described in Appendix A, subsection (a)(3)(A)(ii) of this section I Morbidity. Once a company begins use of the 2016 CCVT for new issues, it may not revert to the 1985 CCCT.

(B) Claim Reserves:

No specific standard. See subdivision (6) of this subsection.

(4) Accidental Death Benefits.

(A) Contract Reserves:

Contracts issued on or after January 1, 1965:

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

*§Appendix A*

*Insurance Department*

The 1959 Accidental Death Benefits Table.

(B) Claim Reserves:

Actual amount incurred.

(5) Single Premium Credit Disability.

(A) Contract Reserves:

(i) For contracts issued on or after January 1, 2017:

(I) For plans having less than a thirty-day elimination period, the 1985 Commissioners Individual Disability Table A (85CIDA) with claim incidence rates increased by twelve percent (12%).

(II) For plans having a thirty-day and greater elimination period, the 85CIDA for a fourteen-day elimination period with the adjustment in Appendix A, subsection (a)(5)(A)(i)(I) of this section I Morbidity.

(ii) For contracts issued prior to January 1, 2017, each insurer may elect either subclause (I) or (II) of this clause to use as the minimum standard. If an insurer elects to calculate reserves for all contracts on the standard defined in subclause (II) of this clause, all future valuations shall be on that basis.

(I) The minimum morbidity standard in effect for contract reserves on currently issued contracts, as of the date the contract was issued; or

(II) The standard as defined in Appendix A, subsection (a)(5)(A)(i) of this section I Morbidity, as applied to all contracts.

(B) Claim Reserves:

Claim reserves are to be determined as provided in section 38a-78-13(c) of the Regulations of Connecticut State Agencies.

(6) Other Individual Contract Benefits.

(A) Contract Reserves:

For all other individual contract benefits, morbidity assumptions are to be determined as provided in the reserve standards.

(B) Claim Reserves:

For all benefits other than disability, claim reserves are to be determined as provided in the standards.

(b) Minimum morbidity standards for valuation of specified group contract health insurance benefits are as follows:

(1) Disability Income Benefits Due to Accident or Sickness, where sections 38a-78-11 to 38a-78-16, inclusive, of the Regulations of Connecticut State Agencies reference this Appendix A; otherwise Actuarial Guideline XLVII, as included in the most current version of the NAIC Accounting Practices and Procedures Manual.

(A) Contract Reserves:

Contracts issued prior to January 1, 1994: The same basis, if any, as that employed by the insurer as of January 1, 1994;

Contracts issued on or after January 1, 1994:

The 1987 Commissioners Group Disability Income Table (87CGDT).



*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

*Insurance Department*

*§Appendix A*

(B) Claim Reserves:

For claims incurred on or after January 1, 1994:

The 1987 Commissioners Group Disability Income Table (87CGDT);

For claims incurred prior to January 1, 1994:

Use of the 87CGDT is optional.

(2) Single Premium Credit Disability.

(A) Contract Reserves:

(i) For contracts issued on or after January 1, 2017:

(I) For plans having less than a thirty day elimination period, the 1985 Commissioners Individual Disability Table A (85CIDA) with claim incidence rates increased by twelve percent (12%).

(II) For plans having a thirty day and greater elimination period, the 85CIDA for a fourteen-day elimination period with the adjustment in Appendix A, subsection (b)(2)(A)(i)(I) of this section I Morbidity.

(ii) For contracts issued prior to January 1, 2017, each insurer may elect either subclause (I) or (II) of this clause to use as the minimum standard. If an insurer elects to calculate reserves for all contracts on the standard defined in subclause (II) of this clause, all future valuations shall be on that basis.

(I) The minimum morbidity standard in effect for contract reserves on currently issued contracts, as of the date the contract was issued; or

(II) The standard as defined in Appendix A, subsection (b)(2)(A)(i) of this section I Morbidity, applied to all contracts.

(B) Claim Reserves:

Claim reserves are to be determined as provided in section 38a-78-13(c) of the Regulations of Connecticut State Agencies.

(3) Other Group Contract Benefits.

(A) Contract Reserves:

For all other group contract benefits, morbidity assumptions are to be determined as provided in the reserve standards.

(B) Claim Reserves:

For all benefits other than disability, claim reserves are to be determined as provided in the standards.

**II. Interest.**

(a) For contract reserves the maximum interest rate is the maximum rate permitted by law in the valuation of annual premium ordinary life insurance for appropriate guarantee duration and issued on the same date as the health insurance contract.

(b) For claim reserves on policies for which contract reserve is required, the maximum interest rate is the maximum rate permitted by law in the valuation of annual premium ordinary life insurance for appropriate guarantee duration and issued on the same day as the claim incurral date.

(c) For claim reserves on policies for which no contract reserve is required, the maximum

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

§Appendix B

Insurance Department

interest rate is the maximum rate permitted by law in the valuation of single premium immediate annuities issued on the same date as the claim incurred date, such rate reduced by one hundred basis points (1%).

**III. Mortality.**

(a) Unless subsection (b) or (c) of this section III Mortality applies, the mortality basis used for (1) all policies, except long term care individual policies and group certificates, and for (2) long-term care individual policies or group certificates issued before the effective date of subsection (b)(1)(C)(ii) of section 38a-78-15 of the Regulations of Connecticut State Agencies, shall be according to a table (but without use of selection factors) permitted by law for the valuation of whole life insurance issued on the same date as the health insurance contract. For long-term care insurance individual policies or group certificates issued on or after the effective date of subsection (b)(1)(C)(ii) of section 38a-78-15 of the Regulations of Connecticut State Agencies, the mortality basis used shall be the 1994 Group Annuity Mortality Static Table.

(b) Other mortality tables adopted by the NAIC and promulgated by the Commissioner may be used in the calculation of the minimum reserves if appropriate for the type of benefits and if approved by the Commissioner. The request for approval shall include the proposed mortality table and the reason that the standard specified in subsection (a) of this section III Mortality is inappropriate.

(c) For single premium credit disability insurance using the 85CIDA table, no separate mortality shall be assumed.

(Amended June 22, 1995; Amended August 31, 2018)

**Sec. Appendix B.**

**Reserves for Waiver of Premium (Supplementary explanatory material.)**

Waiver of premium reserves involve several special considerations. First, the disability valuation tables promulgated by the NAIC are based on exposures that include contracts on premium waiver benefit status as in-force contracts. Hence, contract reserves based on these tables are NOT reserves on “active lives” but rather reserves on contracts “in force.” This is true for the 1964 CDT and for both the 1985 CIDA and CIDB tables.

Accordingly, tabular reserves using any of these tables should value reserves on the following basis:

Claim reserves should include reserves for premiums expected to be waived, valuing as a minimum the valuation net premium being waived.

Premium reserves should include contracts on premium waiver benefit status as in-force contracts, valuing as a minimum the unearned modal valuation net premium being waived.

Contract reserves should include recognition of the waiver of premium benefit in addition to other contract benefits provided for, valuing as a minimum the valuation net premium to be waived.

If an insurer is, instead, valuing reserves on what is truly an active life table, or if a specific valuation table is not being used but the insurer’s gross premiums are calculated

Regulations of Connecticut State Agencies

TITLE 38a. Insurance Department

Insurance Department

§38a-78-18

on a basis that includes in the projected exposure only those contracts for which premiums are being paid, then it may not be necessary to provide specifically for waiver of premium reserves. Any insurer using such a true “active life” basis should carefully consider, however, whether or not additional liability should be recognized on account of premiums waived during periods of disability or during claim continuation.

(Effective September 28, 1993)

**Mortality Tables and Minimum Reserve Liabilities**

**Sec. 38a-78-1–38a-78-9. Transferred Transferred**

<u>Former Section</u>	<b>Correlated Table</b>	<u>New Section</u>
38a-78-1 (re: Mortality Tables	)	38a-78-17
38a-78-2 ( “	)	38a-78-18
38a-78-3 ( “	)	38a-78-19
38a-78-4 ( “	)	38a-78-20
38a-78-5 ( “	)	38a-78-21
38a-78-6 ( “	)	38a-78-22
38a-78-7 ( “	)	38a-78-23
38a-78-8 ( “	)	38a-78-24
38a-78-9 ( “	)	38a-78-25

(Effective October 21, 1994)

**NAIC Model Regulation Permitting Smoker/Non smoker Mortality Tables for Use in Determining Minimum Reserve Liabilities**

**Sec. 38a-78-17. Purpose**

The purpose of Sections 38a-78-18 to 38a-78-20, inclusive, is to permit the use of mortality tables that reflect differences in mortality between smokers and nonsmokers in determining minimum reserve liabilities for plans of insurance with separate premium rates for smokers and nonsmokers.

(Effective September 25, 1992)

**Sec. 38a-78-18. Definitions**

As used in Sections 38a-78-19 and 38a-78-20:

(a) “1980 CSO Table, with or without Ten-Year Select Mortality Factor” means that mortality table, consisting of separate rates of mortality for male and female lives, developed by the Society of Actuaries Committee to Recommend New Mortality Tables for Valuation of Standard Individual Ordinary Life Insurance, incorporated in the 1980 NAIC

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

§38a-78-19

*Insurance Department*

Amendments to the Model Standard Valuation Law and Standard Nonforfeiture Law for Life Insurance, and referred to in those models as the Commissioners 1980 Standard Ordinary Mortality Table, with or without Ten-Year Select Mortality Factors. The same select factors will be used for both smokers and nonsmokers tables.

(b) “1980 CET Table” means that mortality table consisting of separate rates of mortality for male and female lives, developed by the Society of Actuaries Committee to Recommend New Mortality Tables for Valuation of Standard Individual Ordinary Life Insurance, incorporated in the 1980 NAIC Amendments to the Model Standard Nonforfeiture Law for Life Insurance, and referred to in those models as the Commissioners 1980 Extended Term Insurance Table.

(c) “1958 CSO Table” means that mortality table developed by the Society of Actuaries Special Committee on New Mortality Tables, incorporated in the NAIC Model Standard Nonforfeiture Law for Life Insurance, and referred to in that model as the Commissioners 1958 Standard Ordinary Mortality Table.

(d) “1958 CET Table” means that mortality table developed by the Society of Actuaries Special Committee on New Mortality Tables, incorporated in the NAIC Model Standard Nonforfeiture Law for Life Insurance, and referred to in that model as the Commissioners 1958 Extended Term Insurance Table.

(e) The phrase “smoker and nonsmoker mortality tables” refers to the mortality tables with separate rates of mortality for smokers and nonsmokers derived from the tables defined in subsections (a) through (d) of this section which were developed by the Society of Actuaries Task Force on Smoker/Nonsmoker Mortality and recommended by the NAIC Technical Staff Actuarial Group.

(f) The phrase “composite mortality tables” refers to the mortality tables defined in Subsections (a) through (d) of this section as they were originally published with rates of mortality that do not distinguish between smokers and nonsmokers.

(Effective September 25, 1992)

**Sec. 38a-78-19. Alternate tables**

(a) For any policy of insurance delivered or issued for delivery in this state on or after the date of election pursuant to Section 38a-439 (e) (11) of the General Statutes for that policy form, but prior to January 1, 1989, a company may, subject to the conditions of Section 38a-78-20, substitute for use in determining minimum reserve liabilities: (1) the 1958 CSO Smoker and Nonsmoker Mortality Tables for the 1980 CSO Table, with or without Ten-Year Select Mortality Factors; and (2) the 1958 CET Smoker and Nonsmoker Mortality Tables for the 1980 CET Table. Provided that for any category of insurance issued on female lives with minimum reserve liabilities determined using the 1958 CSO or 1958 CET Smoker and Nonsmoker Mortality Tables, such minimum values may be calculated according to an age not more than six years younger than the actual age of the insured. Provided further that the substitution of the 1958 CSO or 1958 CET Smoker and Nonsmoker Mortality Tables is available only if made for each policy of insurance on a policy form

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

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*Insurance Department*

§38a-78-22

delivered or issued for delivery on or after the operative date for that policy form and before a date not later than January 1, 1989.

(b) For any policy of insurance delivered or issued for delivery in this state on or after the date of election pursuant to Section 38a-439 (e) (11) of the General Statutes for that policy form, a company may, subject to the conditions stated in Section 38a-78-20, substitute for use in determining minimum reserve liabilities: (1) the 1980 CSO Smoker and Nonsmoker Mortality Tables, with or without Ten-Year Select Mortality Factors, for the 1980 CSO Table, with or without Ten-Year Select Mortality Factors; and (2) the 1980 CET Smoker and Nonsmoker Mortality Tables for the 1980 CET Table.

(Effective September 25, 1992)

**Sec. 38a-78-20. Conditions**

For each plan of insurance with separate rates for smoker and nonsmokers, an insurer may: (a) use composite mortality tables to determine minimum reserve liabilities; (b) use smoker and nonsmoker mortality tables to determine the valuation of net premiums and additional minimum reserves, if any, required by subsection (h) of section 38a-78 of the Connecticut General Statutes and use composite mortality tables to determine the basic minimum reserves; or (c) use smoker and nonsmoker mortality to determine minimum reserve liabilities.

(Effective September 25, 1992)

**NAIC Model Regulation for Recognizing New Annuity Mortality Tables For Use In Determining Reserve Liabilities for Annuities**

**Sec. 38a-78-21. Purpose**

The purpose of Sections 38a-78-22 to 38a-78-24, inclusive, of the Regulations of Connecticut State Agencies is to recognize the following mortality tables for use in determining the minimum standard of valuation for annuity and pure endowment contracts: the 1983 Table “a”; the 1983 Group Annuity Mortality (1983 GAM) Table; the Annuity 2000 Mortality Table; the 2012 Individual Annuity Reserving (2012 IAR) Table, and the 1994 Group Annuity Reserving (1994 GAR) Table.

(Effective September 25, 1992; Amended December 2, 1998; Amended January 24, 2014)

**Sec. 38a-78-22. Definitions**

As used in Sections 38a-78-23 and 38a-78-24 of the Regulations of Connecticut State Agencies:

(a) “1983 Table ‘a’ ” means that mortality table developed by the Society of Actuaries Committee to Recommend a New Mortality Basis for Individual Annuity Valuation and adopted as a recognized mortality table for annuities in June 1982 by the National Association of Insurance Commissioners.

(b) “1983 GAM Table” means that mortality table developed by the Society of Actuaries

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

§38a-78-23

*Insurance Department*

Committee on Annuities and adopted as a recognized mortality table for annuities in December 1983 by the National Association of Insurance Commissioners.

(c) “1994 GAR Table” means that mortality table developed by the Society of Actuaries Group Annuity Valuation Table Task Force and adopted as a recognized mortality table for annuities in December 1996 by the National Association of Insurance Commissioners.

(d) “Annuity 2000 Mortality Table” means that mortality table developed by the Society of Actuaries Committee on Life Insurance Research and adopted as a recognized mortality table for annuities in December 1996 by the National Association of Insurance Commissioners.

(e) “2012 IAR Table” means that generational mortality table developed by the Society of Actuaries Committee on Life Insurance Research and containing rates,  $qx^{2012+n}$ , derived from a combination of the 2012 IAM Period Table and Projection Scale G2, using the methodology stated in section 38a-78-23a of the Regulations of Connecticut State Agencies.

(f) “2012 Individual Annuity Mortality Period Life (2012 IAM Period) Table” means the Period Table containing loaded mortality rates for calendar year 2012 and containing rates,  $qx^{2012}$ , developed by the Society of Actuaries Committee on Life Insurance Research, as is shown in Appendices 1 and 2 of Sections 38a-78-1 to 38a-78-44, inclusive, of the Regulations of Connecticut State Agencies.

(g) “Generational mortality table” means a mortality table containing a set of mortality rates that decrease for a given age from one year to the next based on a combination of a Period Table and a projection scale containing rates or mortality improvement.

(h) “Period Table” means a table of mortality rates applicable to a given calendar year.

(i) “Period” means the given calendar year.

(j) “Projection Scale G2 (Scale G2)” means a table of annual rates,  $G2x$ , of mortality improvement by age for projecting future mortality rates beyond calendar year 2012 as developed by the Society of Actuaries Committee on Life Insurance Research as shown in Appendices 3 and 4 of Sections 38a-78-1 to 38a-78-44, inclusive, of the Regulations of Connecticut State Agencies.

(Effective September 25, 1992; Amended December 2, 1998; Amended January 24, 2014)

**Sec. 38a-78-23. Individual annuity or pure endowment contracts**

(a) Except as provided in subsections (b), (c) and (d) of this section, the 1983 Table “a” is recognized and approved as an individual annuity mortality table for valuation and, at the option of the company, may be used for purposes of determining the minimum standard of valuation for any individual annuity or pure endowment contract issued on or after October 1, 1981.

(b) Except as provided in subsections (c) and (d) of this section, either the 1983 Table “a” or the Annuity 2000 Mortality Table shall be used for determining the minimum standard of valuation for any individual annuity or pure endowment contract issued on or after December 31, 1985.

(c) Except as provided in subsections (c) and (d) of this section, the Annuity 2000

Mortality Table shall be used for determining the minimum standard of valuation for any individual annuity or pure endowment contract issued on or after January 1, 1999.

(d) Except as provided in subsection (e) of this section, the 2012 IAR Table shall be used for determining the minimum standard of valuation for any individual annuity or pure endowment contract issued on or after January 1, 2015.

(e) The 1983 Table “a” without projection is to be used for determining the minimum standards of valuation for any individual annuity or pure endowment contract issued on or after January 1, 1999, solely when the contract is based on life contingencies and is issued to fund periodic benefits arising from:

- (1) Settlements of various forms of claims pertaining to court settlements or out of court settlements from tort actions;
- (2) Settlements involving similar actions such as worker’s compensation claims; or
- (3) Settlements of long term disability claims where a temporary or life annuity has been used in lieu of continuing disability payments.

(Effective September 25, 1992; Amended December 2, 1998; Amended January 24, 2014)

**Sec. 38a-78-23a. Application of the 2012 IAR Table**

In using the 2012 IAR Table, the mortality rate for a person age  $x$  in year  $(2012 + n)$  is calculated as follows:

$$q_x^{2012+n} = q_x^{2012} (1 - G2x)^n$$

The resulting  $q_x^{2012+n}$  shall be rounded to three decimal places per 1,000, e.g., 0.741 deaths per 1,000. The rounding shall occur according to the formula above, starting at the 2012 period table rate.

For example, for a male age 30,  $q_x^{2012} = 0.741$ .

$q_x^{2013} = 0.741 * (1 - 0.010)^1 = 0.73359$ , which is rounded to 0.734.

$q_x^{2014} = 0.741 * (1 - 0.010)^2 = 0.7262541$ , which is rounded to 0.726.

A method leading to incorrect rounding would be to calculate  $q_x^{2014}$  as  $q_x^{2013} * (1 - 0.010)$ , or  $0.734 * 0.99 = 0.727$ .

It is incorrect to use the already rounded  $q_x^{2013}$  to calculate  $q_x^{2014}$ .

(Effective January 24, 2014)

**Sec. 38a-78-24. Group annuity or pure endowment contracts**

(a) Except as provided in subsections (b) and (c) of this section, the 1983 GAM Table, the 1983 Table “a” and the 1994 GAR Table are recognized and approved as group annuity mortality tables for valuation and, at the option of the company, any of these tables may be used for purposes of valuation for any annuity or pure endowment purchased on or after October 1, 1981 under a group annuity or pure endowment contract.

(b) Except as provided in subsection (c) of this section, either the 1983 GAM Table or the 1994 GAR Table shall be used for determining the minimum standard of valuation for

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

§38a-78-25

*Insurance Department*

any annuity or pure endowment purchased on or after January 1, 1986 under a group annuity or pure endowment contract.

(c) (1) The 1994 GAR Table shall be used for determining the minimum standard of valuation for any annuity or pure endowment purchased on or after January 1, 1999 under a group annuity or pure endowment contract.

(2) In using the 1994 GAR Table, the mortality rate for a person age  $x$  in year  $(1994 + n)$  is calculated as follows:

$$q_x^{1994+n} = q_x^{1994} (1 - AA_x)^n$$

Where  $q_x$  and  $AA_x$ s are specified in the 1994 GAR Table.

(Effective September 25, 1992; Amended December 2, 1998)

**Sec. 38a-78-25. Separability**

If any provision of this Regulation or the application thereof to any person or circumstances is for any reason held to be invalid, the remainder of the regulation and the application of such provision to other persons or circumstances shall not be affected thereby.

(Effective September 25, 1992)

**Sec. 38a-78-26. Purpose**

The purpose of sections 38a-78-26 to 38a-78-30, inclusive, of the Regulations of Connecticut State Agencies is to recognize, permit and prescribe the use of the 2001 Commissioners Standard Ordinary (CSO) Mortality Table for use in determining minimum reserve liabilities in accordance with the Standard Valuation Law, subsection (d) of section 38a-78 of the Connecticut General Statutes.

(Adopted effective March 30, 2005)

**Sec. 38a-78-27. Definitions**

As used in sections 38a-78-26 to 38a-78-30, inclusive, of the Regulations of Connecticut State Agencies:

(a) “2001 CSO Mortality Table” means that mortality table, consisting of separate rates of mortality for male and female lives, developed by the American Academy of Actuaries CSO Task Force from the Valuation Basic Mortality Table developed by the Society of Actuaries Individual Life Insurance Valuation Mortality Task Force, proposed to the National Association of Insurance Commissioners’ Life and Health Actuarial Task Force at its June 2002 meeting and adopted by the National Association of Insurance Commissioners in December 2002. The 2001 CSO Mortality Table is included in the Proceedings of the NAIC (2nd Quarter 2002). Unless the context indicates otherwise, the “2001 CSO Mortality Table” includes both the ultimate form of that table and the select and ultimate form of that



*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

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*Insurance Department*

§38a-78-29

table and includes both the smoker and nonsmoker mortality tables and the composite mortality tables. It also includes both the age-nearest-birthday and age-last-birthday bases of the mortality tables.

(b) “2001 CSO Mortality Table (F)” means that mortality table consisting of the rates of mortality for female lives from the 2001 CSO Mortality Table.

(c) “2001 CSO Mortality Table (M)” means that mortality table consisting of the rates of mortality for male lives from the 2001 CSO Mortality Table.

(d) “Composite mortality tables” means mortality tables with rates of mortality that do not distinguish between smokers and nonsmokers.

(e) “Smoker and nonsmoker mortality tables” means mortality tables with separate rates of mortality for smokers and nonsmokers.

(f) “Commissioner” means the Insurance Commissioner.

(Adopted effective March 30, 2005)

**Sec. 38a-78-28. 2001 CSO mortality table**

(a) At the election of the company for any one or more specified plans of insurance and subject to the conditions stated in Section 38a-78-29 of the Regulations of Connecticut State Agencies, the 2001 CSO Mortality Table may be used as the minimum standard for policies issued after April 1, 2005 and before the date specified in subsection (b) of this section to which subsection (d) of section 38a-78 of the Connecticut General Statutes and subsection (e)(8)(C)(vi) of section 38a-439 of the Connecticut General Statutes are applicable. If the company elects to use the 2001 CSO Mortality Table, it shall do so for both valuation and nonforfeiture purposes. With respect to domestic life insurers only, written notice of election to comply with the provisions of this subsection on or after a specified date shall be filed with the commissioner.

(b) Subject to the conditions stated in Section 38a-78-29 of the Regulations of Connecticut State Agencies, the 2001 CSO Mortality Table shall be used in determining minimum standards for policies issued on and after January 1, 2009 to which subsection (d) of section 38a-78 of the Standard Valuation Law and subsection (e)(8)(C)(vi) of section 38a-439 of the Standard Nonforfeiture Law are applicable.

(Adopted effective March 30, 2005)

**Sec. 38a-78-29. Conditions**

(a) For each plan of insurance with separate rates for smokers and nonsmokers an insurer may use:

(1) Composite mortality tables to determine minimum reserve liabilities and minimum cash surrender values and amounts of paid-up nonforfeiture benefits;

(2) Smoker and nonsmoker mortality tables to determine the valuation net premiums and additional minimum reserves, if any, required by subsection (j) of section 38a-78 of the Connecticut General Statutes and use composite mortality tables to determine the basic minimum reserves, minimum cash surrender values and amounts of paid-up nonforfeiture

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

§38a-78-30

*Insurance Department*

benefits; or

(3) Smoker and nonsmoker mortality to determine minimum reserve liabilities and minimum cash surrender values and amounts of paid-up nonforfeiture benefits.

(b) For plans of insurance without separate rates for smokers and nonsmokers the composite mortality tables shall be used.

(c) For the purpose of determining minimum reserve liabilities and minimum cash surrender values and amounts of paid-up nonforfeiture benefits, the 2001 CSO Mortality Table may, at the option of the company for each plan of insurance, be used in its ultimate or select and ultimate form.

(d) When the 2001 CSO Mortality Table is the minimum reserve standard for any plan for a company, the actuarial opinion in the annual statement filed with the commissioner shall be based on an asset adequacy analysis as specified in section 38a-78-5 of the Regulations of Connecticut State Agencies.

(Adopted effective March 30, 2005)

**Sec. 38a-78-30. Separability**

If any provision of sections 38a-78-26 to 38a-78-29, inclusive, of the Regulations of Connecticut State Agencies or its application to any person or circumstance is for any reason held to be invalid, the remainder of said sections and the application of the provision to other persons or circumstances shall not be affected.

(Adopted effective March 30, 2005)

**Recognition of Preferred Mortality Tables for Use in Determining Minimum Reserve Liabilities**

**Sec. 38a-78-31. Purpose**

The purpose of sections 38a-78-31 to 38a-78-35, inclusive, of the Regulations of Connecticut State Agencies is to recognize, permit and prescribe the use of mortality tables that reflect differences in mortality between Preferred and Standard lives in determining minimum reserve liabilities in accordance with the Standard Valuation Law, subsection (d) of section 38a-78 of the Connecticut General Statutes.

(Adopted effective December 29, 2006)

**Sec. 38a-78-32. Definitions**

As used in sections 38a-78-31 to 38a-78-35, inclusive, of the Regulations of Connecticut State Agencies:

(1) “2001 CSO Mortality Table” means that mortality table, consisting of separate rates of mortality for male and female lives, developed by the American Academy of Actuaries CSO Task Force from the Valuation Basic Mortality Table developed by the Society of Actuaries Individual Life Insurance Valuation Mortality Task Force, proposed to the NAIC’s Life and Health Actuarial Task Force at its June 2002 meeting and adopted by the NAIC in

December 2002. The 2001 CSO Mortality Table is included in the Proceedings of the NAIC (2nd Quarter 2002) and supplemented by the 2001 CSO Preferred Class Structure Mortality Table. Unless the context indicates otherwise, the “2001 CSO Mortality Table” includes both the ultimate form of that table and the select and ultimate form of that table and includes both the smoker and nonsmoker mortality tables and the composite mortality tables. It also includes both the age-nearest-birthday and age-last-birthday bases of the mortality tables. Mortality tables in the 2001 CSO Mortality Table include the following:

- (A) 2001 CSO Mortality Table (F);
- (B) 2001 CSO Mortality Table (M);
- (C) Composite mortality tables; and
- (D) Smoker and nonsmoker mortality tables.

(2) “2001 CSO Mortality Table (F)” means that mortality table consisting of the rates of mortality for female lives from the 2001 CSO Mortality Table.

(3) “2001 CSO Mortality Table (M)” means that mortality table consisting of the rates of mortality for male lives from the 2001 CSO Mortality Table.

(4) “Composite mortality tables” means mortality tables with rates of mortality that do not distinguish between smokers and nonsmokers.

(5) “Smoker and nonsmoker mortality tables” means mortality tables with separate rates of mortality for smokers and nonsmokers.

(6) “2001 CSO Preferred Class Structure Mortality Table” means mortality tables with separate rates of mortality for Super Preferred Nonsmokers, Preferred Nonsmokers, Residual Standard Nonsmokers, Preferred Smokers, and Residual Standard Smokers splits of the 2001 CSO Nonsmoker and Smoker mortality tables as adopted by the NAIC at the September 2006 national meeting and published in the Proceedings of the NAIC (3<sup>rd</sup> Quarter 2006). Unless the context indicates otherwise, the “2001 CSO Preferred Class Structure Mortality Table” includes both the ultimate form of that table and the select and ultimate form of that table. It includes both the smoker and nonsmoker mortality tables. It includes both the male and female mortality tables and the gender composite mortality tables. It also includes both the age-nearest-birthday and age-last-birthday bases of the mortality table.

(7) “Commissioner” means the Insurance Commissioner.

(8) “NAIC” means the National Association of Insurance Commissioners.

(9) “Statistical agent” means an entity with proven systems for protecting the confidentiality of individual insured and insurer information, demonstrated resources for and history of ongoing electronic communications and data transfer ensuring data integrity with insurers, which are its members or subscribers, and a history of and means for aggregation of data and accurate promulgation of the experience modifications in a timely manner.

(Adopted effective December 29, 2006)

**Sec. 38a-78-33. 2001 CSO preferred class mortality table**

At the election of the company, for each calendar year of issue, for any one or more

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

§38a-78-34

*Insurance Department*

specified plans of insurance and subject to satisfying the conditions stated in section 38a-78-34 of the Regulations of Connecticut State Agencies, the 2001 CSO Preferred Class Structure Mortality Table may be substituted in place of the 2001 CSO Smoker or Nonsmoker Mortality Table as the minimum valuation standard for policies issued on or after January 1, 2007. For policies issued on or after January 1, 2004, and prior to January 1, 2007, the 2001 CSO Preferred Class Structure Mortality Table may be substituted in place of the 2001 CSO Smoker or Nonsmoker Mortality Table as the minimum valuation standards for such policies with the consent of the commissioner and subject to the conditions of section 38a-78-34 of the Regulations of Connecticut State Agencies. In determining such consent, the commissioner may rely on the consent of the commissioner of the company's state of domicile. No such election shall be made until the company demonstrates at least twenty percent of the business to be valued on this table is in one or more of the preferred classes. A table from the 2001 CSO Preferred Class Structure Mortality Table used in place of the 2001 CSO Mortality Table, pursuant to the requirements of this section, will be treated as part of the 2001 CSO Mortality Table only for purposes of reserve valuation pursuant to the requirements of the NAIC model regulation, "Recognition of the 2001 CSO Mortality Table For Use In Determining Minimum Reserve Liabilities And Nonforfeiture Benefits Model Regulation".

(Adopted effective December 29, 2006; Amended June 3, 2010)

**Sec. 38a-78-34. Conditions**

(a) For each plan of insurance with separate rates for Preferred and Standard Nonsmokers lives, an insurer may use the Super Preferred Nonsmokers, Preferred Nonsmokers, and Residual Standard Nonsmokers mortality tables to substitute for the Nonsmokers mortality tables found in the 2001 CSO Mortality Table to determine minimum reserves. At the election and annually thereafter, except for business valued under the Residual Standard Nonsmokers Mortality Table, the appointed actuary shall certify that:

(1) The present value of death benefits over the next ten years after the valuation date, using the anticipated mortality experience without recognition of mortality improvement beyond the valuation date for each class, is less than the present value of death benefits using the valuation basic table corresponding to the valuation table being used for that class; and

(2) The present value of death benefits over the future life of the contracts, using anticipated mortality experience without recognition of mortality improvement beyond the valuation date for each class, is less than the present value of death benefits using the valuation basic table corresponding to the valuation table being used for that class.

(b) For each plan of insurance with separate rates for preferred and standard smokers lives, an insurer may use the Preferred Smokers and Residual Standard Smokers mortality tables to substitute for the Smoker mortality table found in the 2001 CSO Mortality Table to determine minimum reserves. At the time of election and annually thereafter, for business valued under the Preferred Smokers Mortality Table, the appointed actuary shall certify

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

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*Insurance Department*

§38a-78-34

that:

(1) The present value of death benefits over the next ten years after the valuation date, using the anticipated mortality experience without recognition of mortality improvement beyond the valuation date for each class, is less than the present value of death benefits using the Preferred Smoker valuation basic table corresponding to the valuation table being used for that class; and

(2) The present value of death benefits over the future life of the contracts, using anticipated mortality experience without recognition of mortality improvements beyond the valuation date for each class, is less than the present value of death benefits using the Preferred Smoker valuation basic table.

(c) Unless exempted by the commissioner, every authorized insurer using the 2001 CSO Preferred Class Structure Mortality Table shall annually file with the commissioner, with the NAIC, or with a statistical agent designated by the NAIC, and that which is acceptable to the commissioner, statistical reports showing mortality and such other information as the commissioner may deem necessary or expedient for the administration of the provisions of sections 38a-78-1 to 38a-78-34, inclusive of the Regulations of Connecticut State Agencies. The form of the reports shall be established by the commissioner or the commissioner may require the use of a form established by the NAIC or by a statistical agent designated by the NAIC, and that which is acceptable to the commissioner.

(d) The company shall not use the 2001 CSO Preferred Class Structure Mortality Table for the valuation of policies issued on or after January 1, 2004, and prior to January 1, 2007 in any statutory financial statement in which a company reports, with respect to any policy or portion of a policy coinsured, either of the following:

(1) In cases where the mode of payment of the reinsurance premium is less frequent than the mode of payment of the policy premium, a reserve credit that exceeds the gross reserve calculated before reinsurance, by more than the amount specified in this subdivision as Y. Y is the amount of the gross reinsurance premium that (A) provides coverage for the period from the next policy premium due date to the earlier of the end of the policy year or the next reinsurance premium due date, and (B) would be refunded to the ceding entity upon the termination of the policy; or

(2) In cases where the mode of payment of the reinsurance premium is more frequent than the mode of payment of the policy premium, a reserve credit that is less than the gross reserve calculated before reinsurance, by less than the amount specified in this paragraph as Z. Z is the amount of the gross reinsurance premium that the ceding entity would need to pay the assuming company to provide reinsurance coverage from the period of the next reinsurance premium due date to the next policy premium due date minus any liability established for the proportionate amount not remitted to the reinsurer.

(e) For purposes of subsection (d) of this section, both the reserve credit and the gross reserve before reinsurance (1) for the mean reserve method shall be defined as the mean reserve minus the deferred premium asset, and (2) for the mid-terminal reserve method, shall include the unearned premium reserve. A company may estimate and adjust its

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

§38a-78-35

*Insurance Department*

accounting on an aggregate basis in order to meet the conditions to use the 2001 CSO Preferred Class Structure Table.

(Adopted effective December 29, 2006; Amended June 3, 2010)

**Sec. 38a-78-35. Separability**

If any provision of sections 38a-78-31 to 38a-78-34, inclusive, of the Regulations of Connecticut State Agencies or its application to any person or circumstance is for any reason held to be invalid, the remainder of said sections and the application of the provision to other persons or circumstances shall not be affected.

(Adopted effective December 29, 2006)

**Preneed Life Insurance Minimum Standards for Determining Reserve Liabilities and Nonforfeiture Values Model**

**Sec. 38a-78-36. Authority**

This regulation is promulgated by the Insurance Commissioner pursuant to section 38a-78 of the Connecticut General Statutes.

(Adopted effective April 2, 2009)

**Sec. 38a-78-37. Scope**

This section applies to preneed insurance contracts, as defined in section 38a-78-39 of the Regulations of Connecticut State Agencies, and to similar policies and certificates.

(Adopted effective April 2, 2009)

**Sec. 38a-78-38. Purpose**

The purpose of this regulation is to establish for preneed insurance products minimum mortality standards for reserves and nonforfeiture values, and to require the use of the 1980 Commissioners Standard Ordinary (CSO) Life Valuation Mortality Table for use in determining the minimum standard of valuation of reserves and the minimum standard nonforfeiture values for preneed insurance products.

(Adopted effective April 2, 2009)

**Sec. 38a-78-39. Definitions**

As used in Sections 38a-78-36 to 38a-78-44, inclusive of the Regulations of Connecticut State Agencies:

(1) The term “2001 CSO Mortality Table” means that mortality table, consisting of separate rates of mortality for male and female lives, developed by the American Academy of Actuaries CSO Task Force from the Valuation Basic Mortality Table developed by the Society of Actuaries Individual Life Insurance Valuation Mortality Task Force and adopted by the NAIC in December 2002. The 2001 CSO Mortality Table is included in the Proceedings of the NAIC (2nd Quarter 2002). Unless the context indicates otherwise, the

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

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*Insurance Department*

§38a-78-42

“2001 CSO Mortality Table” includes both the ultimate form of that table and the select and ultimate form of that table and includes both the smoker and nonsmoker mortality tables and the composite mortality tables. It also includes both the age-nearest-birthday and age-last-birthday bases of the mortality tables.

(2) The term “Ultimate 1980 CSO” means the Commissioners’ 1980 Standard Ordinary Life Valuation Mortality Tables (1980 CSO) without ten-year (10-year) selection factors, incorporated into the 1980 amendments to the NAIC Standard Valuation Law approved in December 1983.

(3) “NAIC” means the National Association of Insurance Commissioners.

(4) “Prened insurance” means any life insurance policy or certificate that is issued in combination with, in support of, with an assignment to, or as a guarantee for a prearrangement agreement for goods and services to be provided at the time of and immediately following the death of the insured. Goods and services may include, but are not limited to, embalming, cremation, body preparation, viewing or visitation, coffin or urn, memorial stone, and transportation of the deceased. The status of the policy or contract as preneed insurance is determined at the time of issue in accordance with the policy form filing.

(Adopted effective April 2, 2009)

**Sec. 38a-78-40. Minimum valuation mortality standards**

For preneed insurance contracts and similar policies and contracts, the minimum mortality standard for determining reserve liabilities and non-forfeiture values for both male and female insureds shall be the Ultimate 1980 CSO.

(Adopted effective April 2, 2009)

**Sec. 38a-78-41. Minimum valuation interest rate standards**

(a) The interest rates used in determining the minimum standard for valuation of preneed insurance shall be the calendar year statutory valuation interest rates as defined in section 38a-78 of the Connecticut General Statutes.

(b) The interest rates used in determining the minimum standard for nonforfeiture values for preneed insurance shall be the calendar year statutory nonforfeiture interest rates as defined in section 38a-439(e) of the Connecticut General Statutes.

(Adopted effective April 2, 2009)

**Sec. 38a-78-42. Minimum valuation method standards**

(a) The method used in determining the standard for the minimum valuation of reserves of preneed insurance shall be the method defined in section 38a-78 of the Connecticut General Statutes.

(b) The method used in determining the standard for the minimum nonforfeiture values for preneed insurance shall be the method defined in section 38a-78 of the Connecticut

Regulations of Connecticut State Agencies

TITLE 38a. Insurance Department

§38a-78-43

Insurance Department

General Statutes.

(Adopted effective April 2, 2009)

**Sec. 38a-78-43. Transition rules**

(a) For preneed insurance policies issued on or after the effective date of this regulation and before January 1, 2012, the 2001 CSO may be used as the minimum standard for reserves and minimum standard for non-forfeiture benefits for both male and female insureds.

(b) If an insurer elects to use the 2001 CSO as a minimum standard for any policy issued on or after the effective date of this regulation and before January 1, 2012, the insurer shall provide, as a part of the actuarial opinion memorandum submitted in support of the company's asset adequacy testing, an annual written notification to the domiciliary commissioner. The notification shall include:

(1) A complete list of all preneed policy forms that use the 2001 CSO as a minimum standard;

(2) A certification signed by the appointed actuary stating that the reserve methodology employed by the company in determining reserves for the preneed policies issued after the effective date and using the 2001 CSO as a minimum standard, develops adequate reserves (for the purposes of this certification, the preneed insurance policies using the 2001 CSO as a minimum standard cannot be aggregated with any other policies); and

(3) Supporting information regarding the adequacy of reserves for preneed insurance policies issued after the effective date of this regulation and using the 2001 CSO as a minimum standard for reserves.

(c) Preneed insurance policies issued on or after January 1, 2012, shall use the Ultimate 1980 CSO in the calculation of minimum nonforfeiture values and minimum reserves.

(Adopted effective April 2, 2009)

**Sec. 38a-78-44. Effective date**

This regulation is applicable to preneed insurance policies and certificates and similar contracts and certificates issued on or after January 1, 2009.

(Adopted effective April 2, 2009)

**Sec. APPENDIX 1.**

**2012 IAM Period Table**

Female, Age Nearest Birthday

AGE	1000 · qx <sup>2012</sup>	AGE	1000 · qx <sup>2012</sup>	AGE	1000 · qx <sup>2012</sup>	AGE	1000 · qx <sup>2012</sup>
0	<b>1.621</b>	30	<b>0.300</b>	60	<b>3.460</b>	90	<b>88.377</b>
1	<b>0.405</b>	31	<b>0.321</b>	61	<b>3.916</b>	91	<b>97.491</b>
2	<b>0.259</b>	32	<b>0.338</b>	62	<b>4.409</b>	92	<b>107.269</b>



*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

<i>Insurance Department</i>				<i>§APPENDIX 2</i>			
3	<b>0.179</b>	33	<b>0.351</b>	63	<b>4.933</b>	93	<b>118.201</b>
4	<b>0.137</b>	34	<b>0.365</b>	64	<b>5.507</b>	94	<b>130.969</b>
5	<b>0.125</b>	35	<b>0.381</b>	65	<b>6.146</b>	95	<b>146.449</b>
6	<b>0.117</b>	36	<b>0.402</b>	66	<b>6.551</b>	96	<b>163.908</b>
7	<b>0.110</b>	37	<b>0.429</b>	67	<b>7.039</b>	97	<b>179.695</b>
8	<b>0.095</b>	38	<b>0.463</b>	68	<b>7.628</b>	98	<b>196.151</b>
9	<b>0.088</b>	39	<b>0.504</b>	69	<b>8.311</b>	99	<b>213.150</b>
10	<b>0.085</b>	40	<b>0.552</b>	70	<b>9.074</b>	100	<b>230.722</b>
11	<b>0.086</b>	41	<b>0.600</b>	71	<b>9.910</b>	101	<b>251.505</b>
12	<b>0.094</b>	42	<b>0.650</b>	72	<b>10.827</b>	102	<b>273.007</b>
13	<b>0.108</b>	43	<b>0.697</b>	73	<b>11.839</b>	103	<b>295.086</b>
14	<b>0.131</b>	44	<b>0.740</b>	74	<b>12.974</b>	104	<b>317.591</b>
15	<b>0.156</b>	45	<b>0.780</b>	75	<b>14.282</b>	105	<b>340.362</b>
16	<b>0.179</b>	46	<b>0.825</b>	76	<b>15.799</b>	106	<b>362.371</b>
17	<b>0.198</b>	47	<b>0.885</b>	77	<b>17.550</b>	107	<b>384.113</b>
18	<b>0.211</b>	48	<b>0.964</b>	78	<b>19.582</b>	108	<b>400.000</b>
19	<b>0.221</b>	49	<b>1.051</b>	79	<b>21.970</b>	109	<b>400.000</b>
20	<b>0.228</b>	50	<b>1.161</b>	80	<b>24.821</b>	110	<b>400.000</b>
21	<b>0.234</b>	51	<b>1.308</b>	81	<b>28.351</b>	111	<b>400.000</b>
22	<b>0.240</b>	52	<b>1.460</b>	82	<b>32.509</b>	112	<b>400.000</b>
23	<b>0.245</b>	53	<b>1.613</b>	83	<b>37.329</b>	113	<b>400.000</b>
24	<b>0.247</b>	54	<b>1.774</b>	84	<b>42.830</b>	114	<b>400.000</b>
25	<b>0.250</b>	55	<b>1.950</b>	85	<b>48.997</b>	115	<b>400.000</b>
26	<b>0.256</b>	56	<b>2.154</b>	86	<b>55.774</b>	116	<b>400.000</b>
27	<b>0.261</b>	57	<b>2.399</b>	87	<b>63.140</b>	117	<b>400.000</b>
28	<b>0.270</b>	58	<b>2.700</b>	88	<b>71.066</b>	118	<b>400.000</b>
29	<b>0.281</b>	59	<b>3.054</b>	89	<b>79.502</b>	119	<b>400.000</b>
						120	<b>1000.000</b>

(Effective January 24, 2014)

**Sec. APPENDIX 2.**

**2012 IAM Period Table**

Male, Age Nearest Birthday

AGE	1000 · qx <sup>2012</sup>	AGE	1000 · qx <sup>2012</sup>	AGE	1000 · qx <sup>2012</sup>	AGE	1000 · qx <sup>2012</sup>
0	<b>1.605</b>	30	<b>0.741</b>	60	<b>5.096</b>	90	<b>109.993</b>
1	<b>0.401</b>	31	<b>0.751</b>	61	<b>5.614</b>	91	<b>123.119</b>
2	<b>0.275</b>	32	<b>0.754</b>	62	<b>6.169</b>	92	<b>137.168</b>

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

<i>§APPENDIX 3</i>				<i>Insurance Department</i>			
3	<b>0.229</b>	33	<b>0.756</b>	63	<b>6.759</b>	93	<b>152.171</b>
4	<b>0.174</b>	34	<b>0.756</b>	64	<b>7.398</b>	94	<b>168.194</b>
5	<b>0.168</b>	35	<b>0.756</b>	65	<b>8.106</b>	95	<b>185.260</b>
6	<b>0.165</b>	36	<b>0.756</b>	66	<b>8.548</b>	96	<b>197.322</b>
7	<b>0.159</b>	37	<b>0.756</b>	67	<b>9.076</b>	97	<b>214.751</b>
8	<b>0.143</b>	38	<b>0.756</b>	68	<b>9.708</b>	98	<b>232.507</b>
9	<b>0.129</b>	39	<b>0.800</b>	69	<b>10.463</b>	99	<b>250.397</b>
10	<b>0.113</b>	40	<b>0.859</b>	70	<b>11.357</b>	100	<b>268.607</b>
11	<b>0.111</b>	41	<b>0.926</b>	71	<b>12.418</b>	101	<b>290.016</b>
12	<b>0.132</b>	42	<b>0.999</b>	72	<b>13.675</b>	102	<b>311.849</b>
13	<b>0.169</b>	43	<b>1.069</b>	73	<b>15.150</b>	103	<b>333.962</b>
14	<b>0.213</b>	44	<b>1.142</b>	74	<b>16.860</b>	104	<b>356.207</b>
15	<b>0.254</b>	45	<b>1.219</b>	75	<b>18.815</b>	105	<b>380.000</b>
16	<b>0.293</b>	46	<b>1.318</b>	76	<b>21.031</b>	106	<b>400.000</b>
17	<b>0.328</b>	47	<b>1.454</b>	77	<b>23.540</b>	107	<b>400.000</b>
18	<b>0.359</b>	48	<b>1.627</b>	78	<b>26.375</b>	108	<b>400.000</b>
19	<b>0.387</b>	49	<b>1.829</b>	79	<b>29.572</b>	109	<b>400.000</b>
20	<b>0.414</b>	50	<b>2.057</b>	80	<b>33.234</b>	110	<b>400.000</b>
21	<b>0.443</b>	51	<b>2.302</b>	81	<b>37.533</b>	111	<b>400.000</b>
22	<b>0.473</b>	52	<b>2.545</b>	82	<b>42.261</b>	112	<b>400.000</b>
23	<b>0.513</b>	53	<b>2.779</b>	83	<b>47.441</b>	113	<b>400.000</b>
24	<b>0.554</b>	54	<b>3.011</b>	84	<b>53.233</b>	114	<b>400.000</b>
25	<b>0.602</b>	55	<b>3.254</b>	85	<b>59.855</b>	115	<b>400.000</b>
26	<b>0.655</b>	56	<b>3.529</b>	86	<b>67.514</b>	116	<b>400.000</b>
27	<b>0.688</b>	57	<b>3.845</b>	87	<b>76.340</b>	117	<b>400.000</b>
28	<b>0.710</b>	58	<b>4.213</b>	88	<b>86.388</b>	118	<b>400.000</b>
29	<b>0.727</b>	59	<b>4.631</b>	89	<b>97.634</b>	119	<b>400.000</b>
						120	<b>1000.000</b>

(Effective January 24, 2014)

**Sec. APPENDIX 3.**

**Projection Scale G2**

Female, Age Nearest Birthday

AGE	G2x	AGE	G2x	AGE	G2x	AGE	G2x
0	<b>0.010</b>	30	<b>0.010</b>	60	<b>0.013</b>	90	<b>0.006</b>
1	<b>0.010</b>	31	<b>0.010</b>	61	<b>0.013</b>	91	<b>0.006</b>
2	<b>0.010</b>	32	<b>0.010</b>	62	<b>0.013</b>	92	<b>0.005</b>

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

<i>Insurance Department</i>				<i>§APPENDIX 4</i>			
3	<b>0.010</b>	33	<b>0.010</b>	63	<b>0.013</b>	93	<b>0.005</b>
4	<b>0.010</b>	34	<b>0.010</b>	64	<b>0.013</b>	94	<b>0.004</b>
5	<b>0.010</b>	35	<b>0.010</b>	65	<b>0.013</b>	95	<b>0.004</b>
6	<b>0.010</b>	36	<b>0.010</b>	66	<b>0.013</b>	96	<b>0.004</b>
7	<b>0.010</b>	37	<b>0.010</b>	67	<b>0.013</b>	97	<b>0.003</b>
8	<b>0.010</b>	38	<b>0.010</b>	68	<b>0.013</b>	98	<b>0.003</b>
9	<b>0.010</b>	39	<b>0.010</b>	69	<b>0.013</b>	99	<b>0.002</b>
10	<b>0.010</b>	40	<b>0.010</b>	70	<b>0.013</b>	100	<b>0.002</b>
11	<b>0.010</b>	41	<b>0.010</b>	71	<b>0.013</b>	101	<b>0.002</b>
12	<b>0.010</b>	42	<b>0.010</b>	72	<b>0.013</b>	102	<b>0.001</b>
13	<b>0.010</b>	43	<b>0.010</b>	73	<b>0.013</b>	103	<b>0.001</b>
14	<b>0.010</b>	44	<b>0.010</b>	74	<b>0.013</b>	104	<b>0.000</b>
15	<b>0.010</b>	45	<b>0.010</b>	75	<b>0.013</b>	105	<b>0.000</b>
16	<b>0.010</b>	46	<b>0.010</b>	76	<b>0.013</b>	106	<b>0.000</b>
17	<b>0.010</b>	47	<b>0.010</b>	77	<b>0.013</b>	107	<b>0.000</b>
18	<b>0.010</b>	48	<b>0.010</b>	78	<b>0.013</b>	108	<b>0.000</b>
19	<b>0.010</b>	49	<b>0.010</b>	79	<b>0.013</b>	109	<b>0.000</b>
20	<b>0.010</b>	50	<b>0.010</b>	80	<b>0.013</b>	110	<b>0.000</b>
21	<b>0.010</b>	51	<b>0.010</b>	81	<b>0.012</b>	111	<b>0.000</b>
22	<b>0.010</b>	52	<b>0.011</b>	82	<b>0.012</b>	112	<b>0.000</b>
23	<b>0.010</b>	53	<b>0.011</b>	83	<b>0.011</b>	113	<b>0.000</b>
24	<b>0.010</b>	54	<b>0.011</b>	84	<b>0.010</b>	114	<b>0.000</b>
25	<b>0.010</b>	55	<b>0.012</b>	85	<b>0.010</b>	115	<b>0.000</b>
26	<b>0.010</b>	56	<b>0.012</b>	86	<b>0.009</b>	116	<b>0.000</b>
27	<b>0.010</b>	57	<b>0.012</b>	87	<b>0.008</b>	117	<b>0.000</b>
28	<b>0.010</b>	58	<b>0.012</b>	88	<b>0.007</b>	118	<b>0.000</b>
29	<b>0.010</b>	59	<b>0.013</b>	89	<b>0.007</b>	119	<b>0.000</b>
						120	<b>0.000</b>

(Effective January 24, 2014)

**Sec. APPENDIX 4.**

**Projection Scale G2**

Male, Age Nearest Birthday

AGE	G2x	AGE	G2x	AGE	G2x	AGE	G2x
0	<b>0.010</b>	30	<b>0.010</b>	60	<b>0.015</b>	90	<b>0.007</b>
1	<b>0.010</b>	31	<b>0.010</b>	61	<b>0.015</b>	91	<b>0.007</b>
2	<b>0.010</b>	32	<b>0.010</b>	62	<b>0.015</b>	92	<b>0.006</b>

*Regulations of Connecticut State Agencies*

TITLE 38a. Insurance Department

<i>§APPENDIX 4</i>				<i>Insurance Department</i>			
3	<b>0.010</b>	33	<b>0.010</b>	63	<b>0.015</b>	93	<b>0.005</b>
4	<b>0.010</b>	34	<b>0.010</b>	64	<b>0.015</b>	94	<b>0.005</b>
5	<b>0.010</b>	35	<b>0.010</b>	65	<b>0.015</b>	95	<b>0.004</b>
6	<b>0.010</b>	36	<b>0.010</b>	66	<b>0.015</b>	96	<b>0.004</b>
7	<b>0.010</b>	37	<b>0.010</b>	67	<b>0.015</b>	97	<b>0.003</b>
8	<b>0.010</b>	38	<b>0.010</b>	68	<b>0.015</b>	98	<b>0.003</b>
9	<b>0.010</b>	39	<b>0.010</b>	69	<b>0.015</b>	99	<b>0.002</b>
10	<b>0.010</b>	40	<b>0.010</b>	70	<b>0.015</b>	100	<b>0.002</b>
11	<b>0.010</b>	41	<b>0.010</b>	71	<b>0.015</b>	101	<b>0.002</b>
12	<b>0.010</b>	42	<b>0.010</b>	72	<b>0.015</b>	102	<b>0.001</b>
13	<b>0.010</b>	43	<b>0.010</b>	73	<b>0.015</b>	103	<b>0.001</b>
14	<b>0.010</b>	44	<b>0.010</b>	74	<b>0.015</b>	104	<b>0.000</b>
15	<b>0.010</b>	45	<b>0.010</b>	75	<b>0.015</b>	105	<b>0.000</b>
16	<b>0.010</b>	46	<b>0.010</b>	76	<b>0.015</b>	106	<b>0.000</b>
17	<b>0.010</b>	47	<b>0.010</b>	77	<b>0.015</b>	107	<b>0.000</b>
18	<b>0.010</b>	48	<b>0.010</b>	78	<b>0.015</b>	108	<b>0.000</b>
19	<b>0.010</b>	49	<b>0.010</b>	79	<b>0.015</b>	109	<b>0.000</b>
20	<b>0.010</b>	50	<b>0.010</b>	80	<b>0.015</b>	110	<b>0.000</b>
21	<b>0.010</b>	51	<b>0.011</b>	81	<b>0.014</b>	111	<b>0.000</b>
22	<b>0.010</b>	52	<b>0.011</b>	82	<b>0.013</b>	112	<b>0.000</b>
23	<b>0.010</b>	53	<b>0.012</b>	83	<b>0.013</b>	113	<b>0.000</b>
24	<b>0.010</b>	54	<b>0.012</b>	84	<b>0.012</b>	114	<b>0.000</b>
25	<b>0.010</b>	55	<b>0.013</b>	85	<b>0.011</b>	115	<b>0.000</b>
26	<b>0.010</b>	56	<b>0.013</b>	86	<b>0.010</b>	116	<b>0.000</b>
27	<b>0.010</b>	57	<b>0.014</b>	87	<b>0.009</b>	117	<b>0.000</b>
28	<b>0.010</b>	58	<b>0.014</b>	88	<b>0.009</b>	118	<b>0.000</b>
29	<b>0.010</b>	59	<b>0.015</b>	89	<b>0.008</b>	119	<b>0.000</b>
						120	<b>0.000</b>

(Effective January 24, 2014)