

**SUBCHAPTER Q. ACTUARIAL OPINION AND MEMORANDUM REGULATION  
28 TAC §3.1607**

**SUBCHAPTER EE. VALUATION OF LIFE INSURANCE POLICIES  
28 TAC §3.4504 and §3.4505**

**1. INTRODUCTION.** The Texas Department of Insurance proposes amendments to §§3.1607, 3.4504, and 3.4505, concerning the minimum reserve standards for life insurance. The proposed amendments to §3.1607, relating to actuarial opinion and memorandum regulation, are necessary to provide an example that an insurance company's appointed actuary must consider when providing disclosure in the regulatory asset adequacy issues summary for asset adequacy interim results of concern. The example cites a situation in which assets may be insufficient to support the payment of benefits and expense and the establishment of reserves during one or more interim periods. The proposed amendments to §3.1607 also are necessary to: (i) modify the filing requirements under existing §3.1607(a)(5) for submitting the regulatory asset adequacy issues summary with the Commissioner; (ii) update obsolete statutory citations to the Insurance Code as a result of the enactment of the non-substantive revision of the Insurance Code; and (iii) correct rule citation style errors. The proposed amendments to §3.4504 and §3.4505, relating to valuation of life insurance policies, are necessary to: (i) replace a graphic in existing §3.4504(2) to be consistent with §7.18; (ii) refine the optional minimum mortality standard for deficiency reserves stipulated in §3.4505 by removing certain constraints and allowing for more flexibility in the calculation of deficiency reserves; (iii) require additional disclosure in the regulatory asset adequacy issues summary required under existing §3.1607 with regard to the

impact of the insufficiency of assets to support the payment of benefits and expenses and the establishment of statutory reserves during one or more interim periods; (iv) update obsolete statutory citations to the Insurance Code as a result of the enactment of the non-substantive revision of the Insurance Code; (v) correct citations to several erroneously cross-referenced rules; (vi) clarify the definition of and calculation for the term *segmented reserves* in §3.4505(9); and (vii) make several other minor text changes to correct grammatical errors or to conform with current Texas Register or agency citation style. The proposed amendments to §3.1607 and §3.4505 are modeled after and consistent with the National Association of Insurance Commissioner's (NAIC's) currently adopted Model Regulations 822 and 830. The proposed amendments are expected to align reserve mortality to expected mortality for certain policies issued by life insurance companies, while retaining reasonable conservatism in reserves for these policies. As a result, the proposed amendments are expected to reduce excessive reserves not needed to support benefits.

The following is a more detailed discussion of the proposed amendments.

**Proposed Amendments to §3.1607, Actuarial Opinion and Memorandum Regulation.** The proposed amendments to §3.1607(a)(5) are necessary to modify the requirements for a life insurance company to file the regulatory asset adequacy issues summary with the Commissioner. Under the proposed amendments to §3.1607(a)(5), only domestic life insurance companies are required to file the regulatory asset adequacy issues summary with the Department's Actuarial Division/Financial Program, no later than March 15 of the year following the year for which a statement of actuarial

opinion based on asset adequacy is required. Nondomestic life insurance companies are not required to file the regulatory asset adequacy issues summary under the proposed amendment to §3.1607(a)(5), unless requested by the Commissioner. Under the proposed amendments to §3.1607(c)(1)(D), the life insurance company's appointed actuary is required to consider the newly-specified example when providing disclosure in the regulatory asset adequacy issues summary for asset adequacy interim results of concern. This example and the required disclosure of any concern is also addressed in the proposed amendments to §3.4505(b)(3). The purpose of this example and required disclosure of any concern is to support financial monitoring efforts by detecting and addressing any such interim deficiencies.

**Proposed Amendments to §3.4504, Definitions.** A proposed amendment to §3.4504(2) is necessary to replace a graphic in the definition of "Contract segmentation method" for consistency with §7.18. The proposed new graphic contains the correct formula to calculate for segments using the contract segmentation method. Insurance companies have been required to use the correct formula contained in the proposed graphic due to the Department's adoption by rule of the NAIC Accounting Practices and Procedures Manual in §7.18, concerning Statements of Statutory Accounting Principles. The proposed amendment would make this graphic and formula consistent with the requirements in §7.18. A proposed amendment to §3.4504(8) replaces incorrect references to §3.14007(a)(3) and (4) with the correct references to §3.4507(a)(3) and (4), concerning calculation of minimum valuation standard for flexible premium and fixed premium universal life insurance policies that contain provisions resulting in the ability of

a policy owner to keep a policy in force over a secondary guarantee period. A proposed amendment to §3.4504(8) also is necessary to delete a reference to a rule title in this subsection because the rule's title already is referenced in §3.4504, to conform to current Department citation style. The proposed amendment to §3.4504(9)(A) adds the phrase "and endowment benefits" to clarify the definition of and calculation for the term *segmented reserves* in §3.4504(9).

**Proposed Amendments to §3.4505, General Calculation Requirements for Basic Reserves and Premium Deficiency Reserves for Life Insurance Policies.**

The proposed amendments to §3.4505(a)(2) and (3) are necessary to change the word "The" to "the" and the word "Any" to "any" respectively for purposes of consistency and to conform with current agency style. The proposed amendments to §3.4505(a)(2) are also necessary to make clarifying changes to punctuation and grammar within the paragraph, by replacing a period with a semicolon and adding the word "or" to the end of the paragraph. The proposed amendments to §3.4505(b)(3) remove certain constraints and allow for more flexibility in the calculation of deficiency reserves to reflect anticipated mortality. Deficiency reserves are in addition to initially calculated minimum reserves when actual premiums and reserve assumptions are less than statutory net premiums and assumptions used in minimum reserve calculations. Anticipated mortality is approximated from applying an "X factor" to statutory mortality. An "X factor" is an experience factor that allows insurance companies to reflect their actual anticipated mortality experience in calculating deficiency reserves. Specifically, these proposed amendments to §3.4505(b)(3) remove the constraint that the "X factor"

cannot go below 20 percent and also remove the constraint that “X factors” cannot decrease in the future. Also, current requirements in existing §3.4505 require the appointed actuary to opine annually on the reasonableness of the resulting “X factor” and to adjust as necessary. The proposed amendments to §3.4505(b)(3) also will require additional disclosure in the regulatory asset adequacy issues summary provided in existing §3.1607. This additional disclosure requires the appointed actuary to disclose the impact of insufficiency of assets to support payment of benefits and expenses during one or more interim periods over the asset adequacy analysis projection. A proposed amendment to §3.4505(b)(3) also is necessary to delete a reference to a rule title in this subsection because the rule’s title already is referenced in §3.4505, to conform to current Department citation style. A proposed amendment to §3.4505(b)(3) is further necessary to change a “%” with the word “percent” to conform to current *Texas Register* citation style. Proposed amendments to §3.4505(b)(3)(G)(i) and (f) replace incorrect references to §3.1608, concerning statement of actuarial opinion based on asset adequacy analysis, with correct references to §3.1607, concerning description of actuarial memorandum including an asset adequacy analysis and regulatory asset adequacy issues summary.

**Obsolete statutory citations.** Proposed amendments are also necessary to update obsolete statutory citations to the Insurance Code as a result of the enactment of the non-substantive revision of the Insurance Code. This will result in easier use and readability of the rules. Amendments are proposed to §§3.1607(a)(1) and (5) and (c)(3), 3.4504(1), (3), (5) and (11), and 3.4505(a)(1) and (b)(1) to update statutory

citations to conform with the non-substantive revised Insurance Code. The proposed amendment to §3.1607(c)(3) replaces the statutory reference to “Article 1.15” with “Chapter 401.” Article 1.15 was repealed in the nonsubstantive Insurance Code revision, Acts 2005, 79th Legislature, Chapter 727, §1, effective April 1, 2007. Article 1.15 was re-adopted as Chapter 401 in the same nonsubstantive Insurance Code revision. Proposed amendments to §§3.1607(a)(1) and (5), 3.4504(1), (3), (5) and (11), and 3.4505(a)(1) and (b)(1) replace statutory references to provisions in “Article 3.28” with statutory references to provisions in “Chapter 425.” Article 3.28 was repealed in the nonsubstantive Insurance Code revision, Acts 2005, 79th Legislature, Chapter 727, §1, effective April 1, 2007. Article 3.28 was re-adopted as Chapter 425 in the same nonsubstantive Insurance Code revision.

**2. FISCAL NOTE.** Mr. Danny Saenz, Senior Associate Commissioner, Financial Program, has determined that, for each year of the first five years the proposed amendments will be in effect, there will be no fiscal implications for state or local government as a result of enforcing or administering the proposed amendments. There will be no measurable effect on local employment or the local economy as a result of the proposal.

**3. PUBLIC BENEFIT/COST NOTE.** Mr. Saenz also has determined that for each year of the first five years the proposed amendments are in effect, the anticipated public benefit will be improved standards of reserves for life insurance by reducing reserve

redundancies due to mortality assumed in reserves which is significantly greater than mortality expected in business issued. Redundant reserves, also referred to as excessive reserves, are those reserves not needed to support benefits. Redundant reserves increase costs to insurance companies and may increase costs to consumers if insurance companies are not able to finance or otherwise handle redundant reserves at reasonable costs. Costs to finance redundant reserves have increased due to the current credit crisis. Additionally, the NAIC is encouraging state regulators to adopt the 2009 revisions to the NAIC Model Regulations 822 and 830 that are reflected in these proposed amendments, as soon as possible to maintain consistent methods of reserving for all US insurers.

**Analysis of Potential Costs for Persons Required to Comply with the Proposal.** The Department does not anticipate any additional cost to persons as a result of the proposed amendments. The proposed amendments to §3.1607 and §3.4504 simply clarify existing requirements in these sections, and thus, do not add any new or additional requirements. The proposed amendments to §3.4505 provide optional reserve standards that an insurance company may choose, but is not required, to utilize for establishing reserves for life insurance. As explained in the Introduction portion of this proposal, the proposed amendments to §3.4505 refine the minimum mortality standard for deficiency reserves stipulated in §3.4505 by removing certain constraints and allowing for more flexibility in the calculation of deficiency reserves. Insurance companies not electing to use the reserve standards provided by the proposed amendments will continue to comply with current requirements and, therefore,

not incur any new or additional compliance costs as a result of the proposed amendments.

Based upon information provided to the NAIC and the Department by industry actuaries and representatives, the Department anticipates primarily only a few large insurance companies will elect to utilize the optional reserve standards afforded by the proposed amendments. Those insurance companies that elect to utilize the reserve standards in the proposed amendments likely will incur optional costs that include (i) actuarial costs to develop the minimum reserve values using the new optional mortality standards; (ii) the data entry and computer programming costs to calculate the minimum reserve values using the new optional mortality standards; and (iii) the annual actuarial and reporting costs to support the adequacy of the reserves produced in using the new optional mortality standards.

*Actuarial costs to develop the minimum reserve values using the new optional mortality standards.* Insurance companies that elect to utilize the standards in the proposed amendments to §3.4505 will incur optional actuarial costs to recalculate the “X factors.” The Department anticipates that an employee in the insurance company’s in-house actuarial department or an employee of a consulting actuarial firm engaged by the insurance company would calculate the reserves using the optional reserves standards. Actual actuarial costs will depend primarily on the actuarial hourly rates and on the actual number of hours required to complete these tasks. The Department estimates that the hourly salary rates for actuarial work will vary significantly depending on whether in-house or consulting actuarial staff is used and could range from \$35 (for

in house actuarial students) to over \$300 (for fully credentialed consulting actuaries). The number of actuarial hours required will vary significantly depending on the number and complexity of the policy forms involved, amount of reinsurance involved, the level of automation used by the life insurance company, and the amount of experience available for company analysis. Each insurance company has the information necessary to estimate its own actuarial costs required to incorporate the new optional mortality standards.

*Data entry and programming costs.* Based upon discussions with industry actuaries, the Department anticipates that an insurance company will incur some optional data entry and computer programming costs to adjust the insurance company's computer system to calculate the minimum reserve values using the new optional mortality standards. Based upon discussions with industry actuaries, the Department anticipates that a member of the company's actuarial or information technology department staff or a member of a consulting actuarial firm staff engaged by the company would perform these calculations at hourly salary rates ranging from \$25 to \$120 (for in-house staff) to over \$200 (for consulting personnel). The actual costs for these hourly rates will vary significantly depending upon whether consulting personnel or company employees are used. The average number of hours to complete these data entry and programming changes will vary significantly depending on various factors, including the number of and complexity of the policy forms, and the level of automation used by the life insurance company. Each insurance company has the information

necessary to estimate its own data entry and programming costs required to incorporate the new optional mortality standards.

*Annual actuarial and reporting costs.* Based upon discussions with industry actuaries, the Department anticipates that a member of an insurance company's in-house actuarial department staff or a member of a consulting actuarial firm staff engaged by the insurance company would annually prepare and file with the Department actuarial information to support the adequacy of the reserves produced in using the new optional mortality standards to provide analysis regarding any insufficiency of assets to support reserves, benefits, and expenses as contemplated under the proposed amendments to §3.4505. Based upon discussions with industry actuaries, the Department estimates that the hourly salary rates for actuarial work will vary significantly depending on whether in-house or consulting actuarial staff is used and could range from \$35 (for in-house actuarial students) to over \$300 (for fully credentialed consulting actuaries). The average number of hours to prepare and file the actuarial information is dependent on several factors, including the adequacy of the reserves obtained using the new optional mortality standards, the amount of life insurance business involved, and the systems available for actuarial analysis. Each insurance company has the information necessary to estimate its own annual actuarial and reporting costs required to incorporate these amendments.

Additionally, based on discussions with several insurance companies, any costs incurred to implement the optional standards provided under the proposed amendments to §3.4505 are estimated to be offset by savings in reducing redundant reserves.

#### **4. ECONOMIC IMPACT STATEMENT AND REGULATORY FLEXIBILITY ANALYSIS**

**FOR SMALL AND MICRO BUSINESSES.** In accordance with the Government Code §2006.002(c), the Department has determined the proposed amendments will not have an adverse economic effect on small or micro business insurance companies that are required to comply with the proposal. As outlined in detail in the Public Benefit/Cost Note analysis part of this proposal, the proposed amendments do not impose any new requirements or costs with which businesses, including small and micro businesses as defined by the Government Code §2006.001(1) and (2), must comply that are not already required under existing rules and statutes. Instead, as explained in the Introduction portion of this proposal, the proposed amendments refine the optional minimum mortality standard for deficiency reserves stipulated in §3.4505 by removing certain constraints and allowing for more flexibility in the calculation of deficiency reserves. Under the proposal, small and micro businesses can elect, but are not required, to use the optional minimum mortality standard for deficiency reserves stipulated in §3.4505. However, they are not required to do so either under the proposal or by the Insurance Code Chapter 425 Subchapter B (Standard Valuation Law). Therefore, in accordance with the Government Code §2006.002(c), the Department has determined that a regulatory flexibility analysis is not required because the proposal will not have an adverse impact on small or micro business insurance companies.

**5. TAKINGS IMPACT ASSESSMENT.** The Department has determined that no private real property interests are affected by this proposal and that this proposal does not restrict or limit an owner's right to property that would otherwise exist in the absence of government action and, therefore, does not constitute a taking or require a takings impact assessment under the Government Code §2007.043.

**6. REQUEST FOR PUBLIC COMMENT.** To be considered, written comments on the proposal must be submitted no later than 5:00 p.m. on May 31, 2010, to Gene C. Jarmon, General Counsel and Chief Clerk, Mail Code 113-2A, Texas Department of Insurance, P. O. Box 149104, Austin, Texas 78714-9104. An additional copy of the comments must be simultaneously submitted to Danny Saenz, Senior Associate Commissioner, Financial Program, Mail Code 305-2A, Texas Department of Insurance, P. O. Box 149104, Austin, Texas 78714-9104. Any request for a public hearing should be submitted separately to the Office of the Chief Clerk before the close of the public comment period. If a hearing is held, written and oral comments presented at the hearing will be considered.

**7. STATUTORY AUTHORITY.** The amendments are proposed under the Insurance Code §§421.001(c), 425.054, 425.058(c)(3), and 36.001. Section 421.001(c) requires the Commissioner to adopt each current formula recommended by the National Association of Insurance Commissioners for establishing reserves for each line of insurance. Section 425.054(c) provides the Commissioner by rule shall specify the

requirements of an actuarial opinion including any matters considered necessary to the opinion's scope. Section 425.058(c) provides that for an ordinary life insurance policy issued on the standard basis, excluding any disability or accidental death benefits in the policy and to which Subchapter B, Chapter 1105, applies, the applicable mortality table is the Commissioners 1980 Standard Ordinary Mortality Table; at the insurer's option for one or more specified life insurance plans, the Commissioners 1980 Standard Ordinary Mortality Table with Ten-Year Select Mortality Factors; or any ordinary mortality table adopted after 1980 by the National Association of Insurance Commissioners that is approved by Commissioner rule for use in determining the minimum standard valuation for a policy to which this subdivision applies. Section 36.001 provides that the Commissioner may adopt any rules necessary and appropriate to implement the powers and duties of the Texas Department of Insurance under the Insurance Code and other laws of this state.

**8. CROSS REFERENCE TO STATUTE.** The following statutes are affected by this proposal:

<u>Rule</u>	<u>Statute</u>
§§3.1607, 3.4504, and 3.4505	Insurance Code §§421.001(c), 425.054(c), and 425.058(c)(3)

**9. TEXT.**

**SUBCHAPTER Q. ACTUARIAL OPINION AND MEMORANDUM REGULATION**

**§3.1607. Description of Actuarial Memorandum Including an Asset Adequacy Analysis and Regulatory Asset Adequacy Issues Summary.**

(a) General. Any actuarial memorandum required by the provisions of this subchapter shall be prepared in accordance with and subject to the provisions and qualifications of paragraphs (1) - (5) of this subsection.

(1) In accordance with the Insurance Code §§425.054 - 425.057 [~~Article 3.28, §2A~~], 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 the opinion. The memorandum shall be made available for examination by the commissioner upon his or her request.

(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 §3.1604 of this subchapter [~~title~~] (relating to Definitions), with respect to the areas covered in such memoranda, and so state in their memoranda.

(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 as required by §3.1605 of this subchapter [~~title~~] (relating to General Requirements), or the standards and requirements of this subchapter, 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 the 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 the reviewing actuary shall be retained by the commissioner. 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 required by this subchapter for any one of the current year or the preceding three years.

(5) In accordance with the Insurance Code §§425.054 – 425.057 [Article 3.28, §2A], the appointed actuary shall prepare a regulatory asset adequacy issues summary, the contents of which are specified in subsection (c) of this section. Texas domestic companies shall submit the [The] regulatory asset adequacy issues summary [will be submitted] to the Actuarial Division, Financial Program, M.C. 302-3A, Texas Department of Insurance, 333 Guadalupe, P.O. Box 149104, Austin, Texas 78714-9104 no later than March 15 of the year following the year for which a statement of actuarial opinion based on asset adequacy is required. Nondomestic companies shall submit the regulatory asset adequacy issues summary when requested by the commissioner.

(b) Details of the memorandum section documenting asset adequacy analysis. When an actuarial opinion under §3.1606 of this subchapter [title] (relating to Statement of Actuarial Opinion Based on an Asset Adequacy Analysis) is provided, the memorandum shall demonstrate that the analysis has been done in accordance with the standards for asset adequacy referred to in §3.1605(c) of this subchapter [title] and any

additional standards under this subchapter. The documentation of the assumptions used in paragraphs (1) and (2) of this subsection shall be such that an actuary reviewing the actuarial memorandum could form a conclusion as to the reasonableness of the assumptions. The memorandum shall specify:

(1) – (6) (No change.)

(c) Details of the regulatory asset adequacy issues summary.

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

(A) – (C) (No change.)

(D) comments on any interim results that may be of significant concern to the appointed actuary. For example, the comments shall describe the impact of the insufficiency of assets to support the payment of benefits and expenses and the establishment of statutory reserves during one or more interim periods.

(E) – (F) (No change.)

(2) (No change.)

(3) The regulatory asset adequacy issues summary will be used to examine the company's financial condition and ability to meet its liabilities. It will be considered information obtained during the course of an examination under the Insurance Code Chapter 401 [~~Article 1.15~~] and treated as confidential.

(d) – (f) (No change.)

## **SUBCHAPTER EE. VALUATION OF LIFE INSURANCE POLICIES**

**§3.4504. Definitions.** The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise.

(1) Basic reserves--reserves calculated in accordance with the principles of the Insurance Code §425.064 [~~Article 3.28, §6~~].

(2) Contract segmentation method--the method of dividing the period from issue to mandatory expiration of a policy into successive segments, with the length of each segment being defined as the period from the end of the prior segment (from policy inception, for the first segment) to the end of the latest policy year as determined below. All calculations are made using the 1980 CSO valuation tables, as defined in this section, (or any other valuation mortality table adopted by the NAIC after the effective date of this subchapter and promulgated by regulation by the commissioner for this purpose), and, if elected, the optional minimum mortality standard for deficiency reserves stipulated in §3.4505(b) of this subchapter [~~title~~] (relating to General Calculation Requirements for Basic Reserves and Premium Deficiency Reserves).

FIGURE: 28 TAC §3.4504(2):

The length of a particular contract segment shall be set equal to the minimum of the value t for which  $G_t$  is greater than  $R_t$  (if  $G_t$  never exceeds  $R_t$  the segment length is deemed to be the number of years from the beginning of the segment to the mandatory expiration date of the policy), where  $G_t$  and  $R_t$  are defined as follows:

$$G_t = GP_{x+k+t} / GP_{x+k+t-1}$$

where:

x = original issue age;

k = the number of years from the date of issue to the beginning of the segment;

t = 1, 2, ...; t is reset to 1 at the beginning of each segment;

GP<sub>x+k+t-1</sub> = Guaranteed gross premium per thousand of face amount, for year t of the segment ignoring policy fees only if such policy fees are level for the premium paying period of the policy.

R<sub>t</sub> = q<sub>x+k+t</sub> / q<sub>x+k+t-1</sub>. However, R<sub>t</sub> may be increased or decreased by one percent in any policy year, at the company's option, but R<sub>t</sub> shall not be less than one;

where:

x, k and t are as defined above, and q<sub>x+k+t-1</sub> = valuation mortality rate for deficiency reserves in policy year k+t but using the mortality of §3.4505(b)(2) of this subchapter (relating to General Calculation Requirements for Basic Reserves and Premium Deficiency Reserves) if §3.4505(b)(3) of this subchapter (relating to General Calculation Requirements for Basic Reserves and Premium Deficiency Reserves) is elected for deficiency reserves.

However, if GP<sub>x+k+t</sub> is greater than 0 and GP<sub>x+k+t-1</sub> is equal to 0, G<sub>t</sub> shall be deemed to be 1000. If GP<sub>x+k+t</sub> and GP<sub>x+k+t-1</sub> are both equal to 0, G<sub>t</sub> shall be deemed to be 0.

[28 TAC §3.4504(2)]

(3) Deficiency reserves--the excess, if greater than zero, of the minimum reserves calculated in accordance with the principles of the Insurance Code §425.068 [~~Article 3.28, §10~~], over the basic reserves.

(4) (No change.)

(5) Maximum valuation interest rates--the interest rates defined in the Insurance Code §425.061 [~~Article 3.28, §5(b)(1)~~], Computation of Minimum Standard by Calendar Year of Issue, that are to be used in determining the minimum standard for the valuation of life insurance policies.

(6) – (7) (No change.)

(8) Scheduled gross premium--the smallest illustrated gross premium at issue for other than universal life insurance policies. For universal life insurance policies, scheduled gross premium means the smallest specified premium described in §3.4507(a)(3) [~~3.14007(a)(3)~~] of this subchapter [~~title~~] (relating to Calculation of Minimum Valuation Standard for Flexible Premium and Fixed Premium Universal Life Insurance Policies That Contain Provisions Resulting in the Ability of a Policyowner to Keep a Policy in Force Over a Secondary Guarantee Period) if any, or else the minimum premium described in §3.4507(a)(4) [~~3.14007(a)(4)~~] of this subchapter [~~title~~] (~~relating to Calculation of Minimum Valuation Standard for Flexible Premium and Fixed Premium Universal Life Insurance Policies That Contain Provisions Resulting in the Ability of a Policyowner to Keep a Policy in Force Over a Secondary Guarantee Period~~).

(9) Segmented reserves--reserves, calculated using segments produced by the contract segmentation method, equal to the present value of all future guaranteed benefits less the present value of all future net premiums to the mandatory expiration of a policy, where the net premiums within each segment are a uniform

percentage of the respective guaranteed gross premiums within the segment. The length of each segment is determined by the "contract segmentation method," as defined in this section. The interest rates used in the present value calculations for any policy may not exceed the maximum valuation interest rate, determined with a guarantee duration equal to the sum of the lengths of all segments of the policy. For both basic reserves and deficiency reserves computed by the segmented method, present values must include future benefits and net premiums in the current segment and in all subsequent segments. The uniform percentage for each segment is such that, at the beginning of the segment, the present value of the net premiums within the segment equals:

(A) the present value of the death benefits and endowment benefits within the segment, plus

(B) the present value of any unusual guaranteed cash value (see §3.4506(d) of this subchapter [~~title~~] (relating to Calculation of Minimum Valuation Standard for Policies with Guaranteed Nonlevel Gross Premiums or Guaranteed Nonlevel Benefits (Other than Universal Life Policies)) occurring at the end of the segment, less

(C) – (D) (No change.)

(10) (No change.)

(11) Ten-year select factors--the select factors in the Insurance Code Chapter 425, Subchapter B, The Standard Valuation Law [~~Article 3.28~~].

(12) – (13) (No change.)

**§3.4505. General Calculation Requirements for Basic Reserves and Premium Deficiency Reserves.**

(a) At the election of the company for any one or more specified plans of life insurance, the minimum mortality standard for basic reserves may be calculated using the 1980 CSO valuation tables with select mortality factors (or any other valuation mortality table adopted by the NAIC after the effective date of this subchapter and promulgated by regulation by the commissioner for this purpose). If select mortality factors are elected, they may be:

(1) the ten-year select mortality factors incorporated in the Insurance Code Chapter 425, Subchapter B [~~Article 3.28~~], The Standard Valuation Law;

(2) the [~~The~~] select mortality factors adopted in §3.4502 of this subchapter [~~title~~] (relating to Adoption of Tables of Select Mortality Factors); or [-]

(3) any [~~Any~~] other table of select mortality factors adopted by the NAIC after the effective date of this regulation and promulgated by regulation by the commissioner for the purpose of calculating basic reserves.

(b) Deficiency reserves, if any, are calculated for each policy as the excess, if greater than zero, of the quantity A over the basic reserve. The quantity A is obtained by recalculating the basic reserve for the policy using guaranteed gross premiums instead of net premiums when the guaranteed gross premiums are less than the corresponding net premiums. At the election of the company for any one or more specified plans of insurance, the quantity A and the corresponding net premiums used

in the determination of quantity A may be based upon the 1980 CSO valuation tables with select mortality factors (or any other valuation mortality table adopted by the NAIC after the effective date of this regulation and promulgated by regulation by the commissioner). If select mortality factors are elected, they may be:

(1) the ten-year select mortality factors in the Insurance Code Chapter 425, Subchapter B, The Standard Valuation Law [~~Article 3.28~~];

(2) the select mortality factors adopted in §3.4502 of this subchapter [~~title~~]

(3) For durations in the first segment, X percent [%] of the select mortality factors adopted in §3.4502 of this subchapter [~~title (relating to Adoption of Tables of Select Mortality Factors)~~], subject to the following:

(A) X may vary by policy year, policy form, underwriting classification, issue age, or any other policy factor expected to affect mortality experience;

~~[(B) X shall not be less than 20 %;]~~

~~[(C) X shall not decrease in any successive policy years;]~~

(B) [~~(D)~~] X is such that, when using the valuation interest rate used for basic reserves, clause (i) of this subparagraph is greater than or equal to clause (ii) of this paragraph [~~paragraph~~]; [;]

(i) The actuarial present value of future death benefits, calculated using the mortality rates resulting from the application of X;

(ii) The actuarial present value of future death benefits calculated using anticipated mortality experience without recognition of mortality improvement beyond the valuation date;

(C) [~~(E)~~] X is such that the mortality rates resulting from the application of X are at least as great as the anticipated mortality experience, without recognition of mortality improvement beyond the valuation date, in each of the first five years after the valuation date;

(D) [~~(F)~~] The appointed actuary shall increase X at any valuation date where it is necessary to continue to meet all the requirements of paragraph (3) of this subsection;

(E) [~~(G)~~] The appointed actuary may decrease X at any valuation date as long as X ~~[does not decrease in any successive policy years and as long as it]~~ continues to meet all the requirements of paragraph (3) of this subsection; and

(F) [~~(H)~~] The appointed actuary shall specifically take into account the adverse effect on expected mortality and lapsation of any anticipated or actual increase in gross premiums.

(G) [~~(I)~~] If X is less than 100 percent [%] at any duration for any policy, the following requirements shall be met:

(i) The appointed actuary shall annually prepare an actuarial opinion and memorandum for the company in conformance with the requirements of §3.1607 [~~§3.1608~~] of this chapter [~~title~~] (relating to Description of Actuarial Memorandum Including an Asset Adequacy Analysis and Regulatory Asset Adequacy

Issues Summary [~~Statement of Actuarial Opinion based on Asset Adequacy Analysis~~];

[~~and~~]

(ii) In the regulatory asset adequacy issues summary prescribed under §3.1607 of this chapter, the appointed actuary shall disclose the impact of the insufficiency of assets to support the payment of benefits and expenses and the establishment of statutory reserves during one or more interim periods; and

(iii) [iii] The appointed actuary shall annually opine for all policies subject to this regulation as to whether the mortality rates resulting from the application of X meet the requirements of paragraph (3) of this subsection. This opinion shall be supported by an actuarial report, subject to appropriate Actuarial Standards of Practice promulgated by the Actuarial Standards Board of the American Academy of Actuaries. The X factors shall reflect anticipated future mortality, without recognition of mortality improvement beyond the valuation date, taking into account relevant emerging experience.

(4) (No change.)

(c) – (e) (No change.)

(f) The commissioner may require that the company document the extent of the adequacy of reserves for specified blocks, including but not limited to policies issued prior to the effective date of this subchapter. This documentation may include a demonstration of the extent to which aggregation with other non-specified blocks of business is relied upon in the formation of the appointed actuary opinion pursuant to

and consistent with the requirements of §3.1607 [~~§3.1608~~] of this chapter [~~title (relating to Statement of Actuarial Opinion based on Asset Adequacy Analysis)~~].