AMERICAN ACADEMY *of* ACTUARIES

MEMORANDUM

To: NAIC Life and Health Actuarial Task Force

From: Academy Annuity Nonforfeiture Implementation Work Group

Subject: Summary of Changes and Draft Model Regulation (with Actuarial Certifications of Compliance)

Date: 06/10/04

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We wanted to provide comments as to changes recommended by the Academy's Annuity Nonforfeiture Implementation Work Group. We have continued to review the model regulation, and have made the changes that you will find in the following documents (one clean and one compare/red-lined version).

The following changes were made:

- There were slight wording changes in several different sections.
- A major clarification was added into the definition of "basis" – changes resulting directly from comments received at the March LHATF meeting.
- The definition of equity indexed benefit was modified to remove the option for a "non-equity equity indexed benefit". This means that the additional reduction available for EIAs will be available only when the underlying asset class is equity based (as opposed to bond based, gold based, etc).
- A new definition for "Index Term" was added.
- Section 7 – Equity Indexed Benefits – was re-written and simplified. The exposed draft contained numerous detailed rules for calculation that were based on an earlier version of the regulation prior to annual certifications being used. The new process is much simpler and essentially says, "calculate the annualized interest cost of the options". There is wide agreement on this concept by all members of the Academy working group.
- The certifications were updated to reflect the new language from section 7.

Thank you for allowing us to contribute to this process. If you would like additional input on any items relating to the annuity nonforfeiture law or regulation, please do not hesitate to ask.

ANNUITY NONFORFEITURE MODEL REGULATION (Clean)

Table of Contents

Section 1. Authority

This regulation is promulgated by the commissioner of insurance pursuant to Sections [insert applicable references to Section 4D of the Standard Nonforfeiture Law for Individual Deferred Annuities] of the [insert jurisdiction] Insurance Laws.

Section 2. Purpose

The purpose of this regulation is to adopt rules to provide for further adjustments to [insert applicable references to Section 4B of the Standard Nonforfeiture Law for Individual Deferred Annuities] and to implement the provisions of [insert applicable references to Section 4C of the Standard Nonforfeiture Law for Individual Deferred Annuities].

Section 3. Definitions

A. "Basis" carries two meanings.

(1) When used in the context of an initial or redetermination method, "basis" means the date or average over a specified period that produces the value of the five-year Constant Maturity Treasury (CMT) Rate. For a redetermination method, the basis may use only specified dates. For an initial method, the basis could use specified dates, dates dependent upon change in CMT levels, or any other date dependent methodology adopted by the NAIC and approved by the commissioner. A specifically excluded method is one that is a continuous change to the lowest rate over a specified time period. A method based upon changes in CMT levels must move up or down in a consistent manner with changes in interest rates, subject to statutory minimums and maximums.

If the initial basis uses dates dependent upon change in CMT levels:

a. The initial nonforfeiture rate shall be determined by a method using specified dates or another approved methodology.
b. A range shall be defined that will determine when the rate shall be updated. The maximum allowable range shall be plus or minus 50 basis points.
c. Each mode (recalculation frequency), a potential nonforfeiture rate shall be calculated using the same method as above, without incorporating any caps or floors.
d. If the difference between the potential nonforfeiture rate and the current nonforfeiture rate is less than or equal to the range, the current nonforfeiture rate shall not be updated.
e. If the difference between the potential nonforfeiture rate and the current nonforfeiture rate is more than the range, the current nonforfeiture rate shall be updated to be equal to the potential nonforfeiture rate adjusted for rounding and any caps or floors.
f. At all times, the current nonforfeiture rate must be based upon CMT values that have occurred within the last 15 months. If the current nonforfeiture rate has not been changed within the last 15 months, the updated current nonforfeiture rate shall be determined using the same method used to determine the initial nonforfeiture rate.

Drafting Note: Consideration is being given to imposing a maximum amount on the change in CMT levels that prompts a change in the minimum nonforfeiture rate.

(2) When used in the context of equity-indexed benefits, "basis" means the point in time used for establishing the value of the equity-indexed options. This refers to the parameters for risk free rate, dividend yield, index volatility, prior index values if the option is path dependent, and any other relevant parameters.

B. "Equity-indexed benefits" means benefits in an annuity contract with guaranteed values determined using an interest crediting rate based on the performance on an equity-based index and contract parameters. Excluded from this definition are variable benefits of separate account variable annuities and indexed guaranteed separate account contracts purchased by institutional buyers.

C. "Index Term" means each period of time until the next indexed interest crediting date.

D. "Initial method" means the basis upon which the initial nonforfeiture rate is established and the period for which it applies.

Drafting Note: It is acceptable for the period within the initial method to last for the entire length of the contract. This is equivalent to not having any redetermination nonforfeiture rates or redetermination periods.

E. “Initial nonforfeiture rate” means the nonforfeiture rate applicable at contract issue.

F. “Minimum nonforfeiture amount” means the minimum value required under the [insert applicable references to Section 4B of the Standard Nonforfeiture Law for Individual Deferred Annuities] of the [insert jurisdiction] Insurance Laws. It reflects net considerations, the nonforfeiture rate, and other items as specified in [insert applicable references to Section 4A of the Standard Nonforfeiture Law for Individual Deferred Annuities] of the [insert jurisdiction] Insurance Laws.

G. “Nonforfeiture rate” means the interest rate used in determining the minimum nonforfeiture amount. This will be determined at issue (initial nonforfeiture rate) and, if applicable, each subsequent redetermination period (redetermination nonforfeiture rate).

H. “Redetermination method” means the redetermination date, basis and period for all future redetermination nonforfeiture rates.

I. “Redetermination nonforfeiture rate” means the nonforfeiture rate applicable at redetermination.

J. “Substantive participation in an equity-indexed benefit” means an annual cost of twenty-five (25) basis points or more attributable to that equity-indexed benefit.

Drafting Note: The “25 basis points” is still under review.

Section 4. Initial Method

A. The initial method shall be filed with the commissioner in accordance with jurisdictional filing and approval requirements.

B. Changes to the initial method are allowed once per calendar year. Any changes to the initial method shall be filed with the commissioner in accordance with jurisdictional filing and approval requirements. A change in initial method would be applicable only to new contracts (or new certificates) issued subsequent to the effective date of the change in method.

Drafting Note: States may consider adopting a deemer provision such that the change in initial method could be deemed approved after an appropriate waiting period, such as 30 or 60 days.

C. The initial method is not required to be disclosed in the contract form.

D. The initial nonforfeiture rate is not required to be disclosed in the contract form, unless redetermination is used.

Drafting Note: The contractually guaranteed interest rate is required to be disclosed, but the nonforfeiture rate is not required to be disclosed.

Section 5. Redetermination Method

A. If redetermination is used, the method shall be disclosed in the contract form (or certificate).

B. Changes in the redetermination method for future issues (or certificates) are allowed at any time subject to jurisdictional filing and approval requirements.

Section 6. Nonforfeiture Rate and Minimum Nonforfeiture Amount

A. For annuities in which equity-indexed benefits are not available: At any point in time, each contract (or certificate) will have one nonforfeiture rate that is applicable to the entire contract.

B. For annuities in which equity-indexed benefits are available:

(1) At any point in time, each contract (or certificate) will have one nonforfeiture rate that applies to benefits that are not equity indexed. If an additional reduction is elected for equity-indexed benefits, the contract may have additional lower nonforfeiture rates applicable to each equity-indexed benefit.

(2) The minimum nonforfeiture amount for the contract is determined by calculating the minimum nonforfeiture amount for each benefit (each equity-indexed benefit and the non equity-indexed benefit) and summing the results.

(3) In the case of a transfer from one benefit to another, the minimum nonforfeiture amounts shall be determined by transferring the same percentage of minimum nonforfeiture amount as the percentage of contract value that is transferred. Allocation of the policy fee shall be transferred in the same manner.

(4) The policy fee shall be allocated based on minimum nonforfeiture amounts of any component benefit to the contract.

Section 7. Equity-Indexed Benefits

A. If a company chooses to take the additional reduction provided under [insert applicable references to Section 4C of the Standard Nonforfeiture Law for Individual Deferred Annuities], the company shall prepare a demonstration showing compliance with the requirements in [insert applicable references to Section 4C of the Standard Nonforfeiture Law for Individual Deferred Annuities].

B. To demonstrate compliance, utilize the following steps:

(1) Calculate the annualized option cost for the entire Index Term as of the beginning of the Index Term

(a) Use the contract's guaranteed product features, such as the guaranteed participation rate, guaranteed caps, etc.

(b) For the option cost, use a basis representative of the point in time at the beginning of the current index term. The company cannot change this basis during the index term.

(c) Make no adjustments for persistency, death, utilization, etc.

(2) If the annualized option cost meets the criteria for substantive equity-indexed participation, then a reduction is available equal to the lesser of 100 basis points and the annual cost basis value.

(3) The company shall prepare an actuarial certification, signed by a member of the American Academy of Actuaries that the reduction complies with requirements [insert reference] at the time that the contract form is filed and submit it according to the requirements of the jurisdiction.

(4) The company shall also annually prepare an actuarial certification [insert reference] , signed by a member of the American Academy of Actuaries with regard to ongoing compliance and submit it according to the requirements of the jurisdiction.

Drafting Note: The actuarial certifications in Paragraphs (3) and (4) are to be prepared by each company as stated. They are to be filed with the state only if the state requires filing of policy forms. The company should maintain demonstrations and work papers to be submitted if requested.

C. If the commissioner determines that the additional reduction of up to 100 basis points for equity-indexed benefits has been inappropriately taken, the commissioner may require the recalculation of all values for all affected policyholders without all or part of such additional reduction.

Section 8. Effective Date

The effective date of this regulation is [insert date].

Appendix A

Illustrations of indexing methods dependent upon changes in CMT levels

Example 1

Method – For each calendar year, the rate is set based on the monthly average from November of the preceding year. Each month, a potential rate will be calculated based upon the previous month's CMT average. If the potential rate differs from the actual rate by more than 25 bps, the actual rate will be updated. This continues until the end of the calendar year, when the rate is automatically reset based upon the monthly average from November again.

Date	5 Year CMT Monthly Average	Potential NF rate	Actual NF Rate	Comments
Nov. 2003	3.0%	N/a	N/a	Monthly rate for next year
Dec. 2003	3.0%	N/a	N/a	
Jan. 2004	3.1%	1.75%	1.75%	January issues have 1.75% NF rate
Feb. 2004	3.2%	1.85% (3.1% - 125 bps)	1.75%	No change since difference between actual rate and potential rate is less than 25 bps
March 2004	3.3%	1.95%	1.75%	No change since difference is only 20 bps. Note that result of March CMT means April actual rate will change.
April 2004	3.3%	2.05%	2.05%	Potential rate (2.05%) differs from actual rate (1.75%) by more than 25 bps, so update actual rate.
May 2004	3.1%	2.05%	2.05%	
June 2004	3.1%	1.85%	2.05%	
July 2004	2.6%	1.85%	2.05%	5 year CMT dropped this month, so next month potential NF rate will drop. Since more than 25 bps change, actual NF rate changes.
Aug. 2004	2.6%	1.35%	1.35%	
Sept. 2004	2.6%	1.35%	1.35%	
Oct. 2004	2.6%	1.35%	1.35%	
Nov. 2004	2.6%	1.35%	1.35%	Sets rate for 2005 issues
Dec. 2004	2.6%	1.35%	1.35%	
Jan. 2005	2.8%	1.35%	1.35%	
Feb. 2005	2.8%	1.55%	1.35%	Less than 25 bps change
March 2005	2.8%	1.55%	1.35%	
April 2005	2.8%	1.55%	1.35%	
May 2005	3.25%	1.55%	1.35%	

June 2005	3.25%	2.0%	2.0%	Update rate since more than 25 bps change from potential rate to actual rate.
July 2005	3.25%	2.0%	2.0%	

Example 2 – relatively level interest rate environment

Method – This example starts with an initial NF rate based on a single point in time. Once this initial rate is determined, it is in effect until the potential rate differs from the actual rate by more than 25 bps. This example does not automatically set each calendar year from a set month. For this example, the initial rate is set for the contract form based off a one month average with a one month lag for a contract form that will launch in January of 2004. March potential rate is based off of January CMT rates, April potential rate is determined from February CMT rates and so on. So for issues in January 2004, the rate is based on November 2003 monthly average. For all issues after January 2004, the actual rate will change only if it differs from the potential rate by more than 25 bps. These examples will look at what happens in relatively level interest rate environment – keeping in mind that the NF rate MUST be updated so all 5 year CMT rates upon which the nonforfeiture rate is based occur within 15 months from contract issue date.

Date	5 Year CMT Monthly Average	Potential NF rate	Actual NF Rate	Comments
Nov. 2003	3.0%	N/a	N/a	Month for base rate – "sets a starting peg in the ground"
Dec. 2003	3.1%	N/a	N/a	One month lag
Jan. 2004	3.1%	1.75%	1.75%	Initial Rate for block
Feb. 2004	**3.3%**	1.85%	1.75%	
March 2004	**3.5%**	1.85%	1.75%	
April 2004	3.5%	2.05%	2.05%	
May 2004	3.5%	2.25%	2.05%	
June 2004	3.5%	2.25%	2.05%	
July 2004	3.5%	2.25%	2.05%	
Aug. 2004	3.5%	2.25%	2.05%	
Sept. 2004	3.5%	2.25%	2.05%	
Oct. 2004	3.5%	2.25%	2.05%	
Nov. 2004	3.5%	2.25%	2.05%	
Dec. 2004	3.5%	2.25%	2.05%	
Jan. 2005	3.5%	2.25%	2.05%	
Feb. 2005	3.5%	2.25%	2.05%	
March 2005	3.5%	2.25%	2.05%	
April 2005	3.5%	2.25%	2.05%	

May 2005	3.5%	2.25%	2.25%	Since CMT rate that determined actual NF rate of 2.05% occurred more than 15 months ago, the actual rate MUST be updated. Given the method, this means this rate is based on March CMT rate (monthly average with a one month lag – see description in method for this example).
June 2005	3.5%	2.25%	2.25%	
July 2005	3.5%	2.25%	2.25%	

Example 3 – Shows what to do when 1% floor comes into play

Method – This example starts with an initial NF rate based on a single point in time. The potential rate is determined based on the preceding month CMT average. If the potential rate differs from the actual rate by more than 25 bps, the actual rate is updated. This example shows how to handle statutory minimums (use the same logic for maximums).

Date	5 Year CMT Monthly Average	Potential NF rate	Actual NF Rate	Comments
Dec. 2003	2.4%	N/a	N/a	Starting month for the block – this sets the "peg in the ground"
Jan. 2004	2.3%	1.15%	1.15%	Initial Rate for block
Feb. 2004	2.3%	1.05%	1.15%	
March 2004	2.25%	1.05%	1.15%	
April 2004	2.25%	1.0%	1.15%	
May 2004	2.1%	1.0%	1.15%	
June 2004	2.1%	0.85%	1.0%	The potential rate is not subject to statutory minimums and maximums. It must be unbounded in order to determine if a change of more than 25 bps has occurred. In this case, it has, so the actual rate is updated, factoring in statutory minimums and maximums.
July 2004	2.1%	0.85%	1.0%	
Aug. 2004	2.1%	0.85%	1.0%	

Example 4 – real life 5 year CMT averages

Method – Monthly average 5 year CMT with a one month lag time. NF rate is updated whenever there is a change of plus or minus 50 bps. Note that rounding has not been incorporated into this example.

http://www.federalreserve.gov/releases/h15/current/h15.pdf and
Http://www.treas.gov/offices/domestic-finance/debt-management/interest-rate/index.html

	(1) CMT Rate	(2) Potential NF Rate	(3) Actual NF Rate	
Original Rate			2.94	assumed as a given
July 2002	3.81	2.56	2.94	
Aug. 2002	3.29	2.04	2.04	
Sept. 2002	2.94	1.69	2.04	
Oct. 2002	2.95	1.70	2.04	
Nov. 2002	3.05	1.80	2.04	
Dec. 2002	3.03	1.78	2.04	
Jan. 2003	3.05	1.80	2.04	
Feb. 2003	2.90	1.65	2.04	
March 2003	2.78	1.53	1.53	
April 2003	2.93	1.68	1.53	
May 2003	2.52	1.27	1.53	
June 2003	2.27	1.02	1.02	
July2003	2.87	1.62	1.62	
Aug. 2003	3.37	2.12	1.62	

(1) = monthly average 5 year CMT from above named sources
(2) = monthly average minus 125 bps – "potential NF rate"
(3) = actual rate according to a value triggered method with range of plus or minus 50 bps

Note – the above examples are just that – examples. There are many more methods that could be used that may also be appropriate.

Appendix B

Transfer of minimum nonforfeiture amount for Section 6.

This example will show a simple demonstration of how the minimum nonforfeiture amount is to be transferred in an equity-indexed annuity under Section 6. Assume that the 5 year CMT is 3.75%. This results in a fixed annuity nonforfeiture rate of 2.5%. Further assume that the equity-indexed benefit receives the additional 100 bps reduction, so its nonforfeiture rate is 1.5%. This contract has a fixed interest option within an EIA. The policyholder may transfer money on any contract anniversary. Assuming there are transfers, the minimum nonforfeiture amount is path dependent. The minimum nonforfeiture amount will roll forward and get transferred back and forth at the "bucket" level, then added together for the contract level minimum nonforfeiture amount.

Year 1

Policyholder initially allocates 50% of premium each to fixed and equity-indexed buckets.

EIA bucket = 50% * 100,000 * 87.5% * 1.015 = 44,406.25
Fixed = 50% * 100,000 * 87.5% * 1.025 = 44,843.75

The total minimum nonforfeiture amount is 44,406.25 + 44,843.75 = 89,250.00.

Year 2

At the end of year 1, assume that due to market performance, the *contract value* is now allocated 60% in the equity-indexed bucket and 40% in the fixed bucket. The policyholder decides to re-allocate his contract value so that it is again at 50% in the equity-indexed bucket and 50% in the fixed interest bucket. This means that 1/6th (10% out of the 60%) of the equity-indexed contract value is transferred to the fixed interest CV. Thus, 1/6th of the equity-indexed minimum nonforfeiture amount is transferred to the fixed minimum nonforfeiture amount. The results follow:
EIA bucket = 44,406.25 – 7,401.04 = 37,005.21.
Fixed bucket = 44,843.75 + 7,401.04 = 52,244.79.
Note that the total minimum nonforfeiture amount remains level at 89,250.00.

Year 2 calculations are identical to year 1 with the adjusted starting values.

EIA = 37,005.21 * 1.015 = 37,560.29
Fixed = 52,244.79 * 1.025 = 53,550.91
Total = 91,111.20

With different starting allocations and re-allocations, all the calculations operate the same, but would be adjusted "accordingly."

Initial Actuarial Certification of Compliance with (identify state regulation that corresponds to the Annuity Nonforfeiture Model Regulation)

For use with Equity-Indexed Annuity policy forms at time of filing.

I, (state name and professional designation) am responsible for evaluating compliance with the (identify state law and regulation that corresponds to the Standard Nonforfeiture Law for Individual Deferred Annuities and the Annuity Nonforfeiture Model Regulation) for (name of insurance company). I have reviewed (identify policy form) and am familiar with the (identify state law and regulation that corresponds to the Standard Nonforfeiture Law for Individual Deferred Annuities and the Annuity Nonforfeiture Model Regulation) as they pertain to equity-indexed annuities. I have reviewed the determination of the interest rate used to calculate minimum nonforfeiture amounts. I have reviewed the assumptions used to support the additional reduction that is permitted to be used with equity-indexed annuities if certain conditions are met.

Based on my review, I certify that the nonforfeiture values provided under (identify policy form) meet the minimum nonforfeiture value requirements of the (identify state law and regulation that corresponds to the Standard Nonforfeiture Law for Individual Deferred Annuities and the Annuity Nonforfeiture Model Regulation).

____
(Name of actuary)

____
(Signature of actuary)

____
(Date of certification)

On-going Actuarial Certification of Compliance with (identify state regulation that corresponds to the Annuity Nonforfeiture Model Regulation)

For use in certifying on-going compliance with the (identify state regulation that corresponds to the Annuity Nonforfeiture Model Regulation).

I, (state name and professional designation) am responsible for evaluating compliance with the (identify state law and regulation that corresponds to the Standard Nonforfeiture Law for Individual Deferred Annuities and the Annuity Nonforfeiture Model Regulation) for (name of insurance company). I am familiar with the (identify state law and regulation that corresponds to the Standard Nonforfeiture Law for Individual Deferred Annuities and the Annuity Nonforfeiture Model Regulation) as they pertain to equity-indexed annuities. I have reviewed the equity index features of (identify all policy forms covered by this certification) for ongoing compliance with the requirements of (identify state regulation that corresponds to the Annuity Nonforfeiture Model Regulation) that deal with the additional reduction relating to equity-indexed annuities. I have reviewed the assumptions used to support the additional reduction that is permitted to be used with equity-indexed annuities.

Based on my review, I certify that the additional reduction used to determine nonforfeiture values provided under the policy forms identified above met the requirements of (identify state regulation that corresponds to the Annuity Nonforfeiture Model Regulation) as it relates to equity-indexed annuities during (identify calendar year).

____
(Name of actuary)

____
(Signature of actuary)

____
(Date of certification)

ANNUITY NONFORFEITURE MODEL REGULATION (Compare/Red-Lined)

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If the initial basis uses dates dependent upon change in CMT levels:

g. The initial nonforfeiture rate shall be determined by a method using specified dates or another approved methodology.
h. A range shall be defined that will determine when the rate shall be updated. The maximum allowable range shall be plus or minus 50 basis points.
i. Each mode (recalculation frequency), a potential nonforfeiture rate shall be calculated using the same method as above, without incorporating any caps or floors.
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B. "Equity-indexed benefits" means benefits in an annuity contract with guaranteed values determined using an interest crediting rate based on the performance on an equity-based index and contract parameters. Excluded from this definition are variable benefits of separate account variable annuities and indexed guaranteed separate account contracts purchased by institutional buyers. ~~For purposes of this regulation and by the authority in the Standard Nonforfeiture Law for Individual Deferred Annuities Section 4D, annuity contracts with benefits indexed to non-equity indices, e.g. bond index, real estate index, etc., where the derivatives of the index are traded on a recognized exchange are also considered an equity-indexed annuity.~~

~~**Drafting Note:** The scope of "annuity contracts with benefits indexed to non-equity indices" is still under review.~~

C. “Index Term” means each period of time until the next indexed interest crediting date.

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~~H.~~I. “Redetermination nonforfeiture rate” means the nonforfeiture rate applicable at redetermination.

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(1) At any point in time, each contract (or certificate) will have one nonforfeiture rate that applies to benefits that are not equity indexed. If an additional reduction is elected for equity-indexed benefits, the contract may have additional lower nonforfeiture rates applicable to each equity-indexed benefit.

(2) The minimum nonforfeiture amount for the contract is determined by calculating the minimum nonforfeiture amount for each benefit (each equity-indexed benefit and the non equity-indexed benefit) and summing the results.

(3) In the case of a transfer from one benefit to another, the minimum nonforfeiture amounts shall be determined by transferring the same percentage of minimum nonforfeiture amount as the percentage of contract value that is transferred. ~~Transfer the allocation~~Allocation of the policy fee shall be transferred in the same manner.

(4) The policy fee shall be allocated based on minimum nonforfeiture amounts of any component benefit to the contract.

Section 7. Equity-Indexed Benefits

A. If a company chooses to take the additional reduction provided under [insert applicable references to Section 4C of the Standard Nonforfeiture Law for Individual Deferred Annuities], the company shall ~~choose either the cost basis approach or the market value approach for demonstrating~~prepare a demonstration showing compliance with the requirements in [insert applicable references to Section 4C of the Standard Nonforfeiture Law for Individual Deferred Annuities].

~~B. If a company chooses to change the approach, the company shall file the change with the commissioner subject to the same compliance demonstration requirements as Section 7A and certification requirements in Section 7C(10) and (11) or Section 7D(9) and (10), as applicable.~~

~~C. The cost basis approach utilizes~~B. To demonstrate compliance, utilize the following steps:

(2) Calculate the annualized option cost for the entire Index Term as of the beginning of the Index Term

(c) ~~(1) Take~~Use the contract's guaranteed product features, such as the guaranteed participation rate, guaranteed caps, etc.

(d) ~~(2)~~ For the option cost, use a basis representative of the point in time at the beginning of the current index term. The company cannot change this basis during the index term.

~~(3 Make~~(c) Make no adjustments for persistency, death, utilization, etc.

~~(4) Calculate the total cost of the liability reflecting the capital market option cost.~~

~~(5) Calculate an annuity immediate certain for the length of the index term. For the interest rate assumption in the annuity immediate certain, use the five-year Constant Maturity Treasury rate with the same basis as is used underlying the rate calculated in [insert applicable references to Section 4B of the Standard Nonforfeiture Law for Individual Deferred Annuities].~~

~~(6) Divide the~~(2) If the annualized option cost~~of the liability from step 4 by the annuity immediate certain from step 5. This is the annual cost basis value.~~

~~(7) If the annual cost basis value~~ meets the criteria for substantive equity-indexed participation, then a reduction is available equal to the lesser of 100 basis points and the annual cost basis value.

~~(8) With approval from the commissioner at the time that the cost basis approach is filed, the company may also make an irrevocable election to apply this reduction for the life of the contract, subject to a commitment to set the contract's product features, such as the participation rates, caps, etc. during such time to support such reduction. The reduction will then apply for the life of the contract, regardless of the changes in option costs or interest rates.~~

~~(9) If the company does not make this irrevocable election, then the reduction shall be recalculated for each index term.~~

~~(10)~~(3) The company shall prepare an actuarial certification, signed by a member of the American Academy of Actuaries that the reduction complies with requirements [insert reference] at the time that the contract form is filed and submit it according to the requirements of the jurisdiction.

(4) The company shall also annually prepare an actuarial certification [insert reference] , signed by a member of the American Academy of Actuaries with regard to ongoing compliance and submit it according to the requirements of the jurisdiction.

~~(11) The company shall also annually prepare an actuarial certification [insert reference] with regard to ongoing compliance and submit it according to the requirements of the jurisdiction.~~

~~**Drafting Note**: The actuarial certifications in Paragraphs (10) and (11) are to be prepared by each company as stated. They are to be filed with the state only if the state requires filing of policy forms.~~

~~D. The market value approach utilizes the following steps:~~

~~(1) Take the contract's non-guaranteed product features, such as the current participation rate, current caps, etc.~~

~~(2) For the option cost, use a basis representative of the point in time at the beginning of the current index term. The company cannot change this basis during the index term.~~

~~(3) Reflect best estimate assumptions for the likelihood of payoff of the equity-indexed components. Include lapse, death, partial withdrawal, optional elections, and any other relevant assumption.~~

~~**Drafting Note:** For example, the best estimate assumption for persistency would reflect voluntary lapsation and deaths. Also, if the product is structured so that equity-indexed benefits are only applied on annuitization, then the likelihood of payoff would only reflect the extent to which the company anticipates providing the contract owner with those equity-indexed benefits. Other factors that influence persistency should also be reflected.~~

~~(4) Calculate the total cost of the liability reflecting the capital market option cost with adjustments due to the actuarial assumptions.~~

~~(5) Calculate an annuity immediate certain for the length of the index term. For the interest rate assumption in the annuity immediate certain, use the five-year Constant Maturity Treasury rate with the same basis as is used underlying the rate calculated in [insert applicable references to Section 4B of the Standard Nonforfeiture Law for Individual Deferred Annuities].~~

~~(6) Divide the option cost of the liability from step 4 by the annuity immediate certain from step 5. This is the annual market value.~~

~~(7) If the annual market value meets the criteria for substantive equity-indexed participation, then a reduction is available equal to the lesser of 100 basis points and the annual market value.~~

~~(8) The reduction shall be recalculated for each index term.~~

~~(9) The company shall prepare an actuarial certification that the reduction complies with requirements [insert reference] at the time that the contract form is filed and submit it according to the requirements of the jurisdiction.~~

~~(10) The company shall also annually prepare an actuarial certification [insert reference] with regard to ongoing compliance and submit it according to the requirements of the jurisdiction.~~

~~**Drafting Note:** The actuarial certifications in Paragraphs (9) and (10) are to be prepared by each company as stated. They are to be filed with the state only if the state requires filing of policy forms.~~**Drafting Note**: The actuarial certifications in Paragraphs (3) and (4) are to be prepared by each company as stated. They are to be filed with the state only if the state requires filing of policy forms. The company should maintain demonstrations and work papers to be submitted if requested.

~~E.~~C. If the commissioner determines that the additional reduction of up to 100 basis points for equity-indexed benefits has been inappropriately taken, the commissioner may require the recalculation of all values for all affected policyholders without all or part of such additional reduction.

Section 8. Effective Date

The effective date of this regulation is [insert date].

Appendix A

Illustrations of indexing methods dependent upon changes in CMT levels

Example 1

Method – For each calendar year, the rate is set based on the monthly average from November of the preceding year. Each month, a potential rate will be calculated based upon the previous month's CMT average. If the potential rate differs from the actual rate by more than 25 bps, the actual rate will be updated. This continues until the end of the calendar year, when the rate is automatically reset based upon the monthly average from November again.

Date	5 Year CMT Monthly Average	Potential NF rate	Actual NF Rate	Comments
Nov. 2003	3.0%	N/a	N/a	Monthly rate for next year
Dec. 2003	3.0%	N/a	N/a	
Jan. 2004	3.1%	1.75%	1.75%	January issues have 1.75% NF rate
Feb. 2004	3.2%	1.85% (3.1% - 125 bps)	1.75%	No change since difference between actual rate and potential rate is less than 25 bps
March 2004	3.3%	1.95%	1.75%	No change since difference is only 20 bps. Note that result of March CMT means April actual rate will change.
April 2004	3.3%	2.05%	2.05%	Potential rate (2.05%) differs from actual rate (1.75%) by more than 25 bps, so update actual rate.
May 2004	3.1%	2.05%	2.05%	
June 2004	3.1%	1.85%	2.05%	
July 2004	2.6%	1.85%	2.05%	5 year CMT dropped this month, so next month potential NF rate will drop. Since more than 25 bps change, actual NF rate changes.
Aug. 2004	2.6%	1.35%	1.35%	
Sept. 2004	2.6%	1.35%	1.35%	
Oct. 2004	2.6%	1.35%	1.35%	
Nov. 2004	2.6%	1.35%	1.35%	Sets rate for 2005 issues
Dec. 2004	2.6%	1.35%	1.35%	
Jan. 2005	2.8%	1.35%	1.35%	
Feb. 2005	2.8%	1.55%	1.35%	Less than 25 bps change
March 2005	2.8%	1.55%	1.35%	
April 2005	2.8%	1.55%	1.35%	
May 2005	3.25%	1.55%	1.35%	

June 2005	3.25%	2.0%	2.0%	Update rate since more than 25 bps change from potential rate to actual rate.
July 2005	3.25%	2.0%	2.0%	

Example 2 – relatively level interest rate environment

Method – This example starts with an initial NF rate based on a single point in time. Once this initial rate is determined, it is in effect until the potential rate differs from the actual rate by more than 25 bps. This example does not automatically set each calendar year from a set month. For this example, the initial rate is set for the contract form based off a one month average with a one month lag for a contract form that will launch in January of 2004. March potential rate is based off of January CMT rates, April potential rate is determined from February CMT rates and so on. So for issues in January 2004, the rate is based on November 2003 monthly average. For all issues after January 2004, the actual rate will change only if it differs from the potential rate by more than 25 bps. These examples will look at what happens in relatively level interest rate environment – keeping in mind that the NF rate MUST be updated so all 5 year CMT rates upon which the nonforfeiture rate is based occur within 15 months from contract issue date.

Date	5 Year CMT Monthly Average	Potential NF rate	Actual NF Rate	Comments
Nov. 2003	3.0%	N/a	N/a	Month for base rate – "sets a starting peg in the ground"
Dec. 2003	3.1%	N/a	N/a	One month lag
Jan. 2004	3.1%	1.75%	1.75%	Initial Rate for block
Feb. 2004	**3.3%**	1.85%	1.75%	
March 2004	**3.5%**	1.85%	1.75%	
April 2004	3.5%	2.05%	2.05%	
May 2004	3.5%	2.25%	2.05%	
June 2004	3.5%	2.25%	2.05%	
July 2004	3.5%	2.25%	2.05%	
Aug. 2004	3.5%	2.25%	2.05%	
Sept. 2004	3.5%	2.25%	2.05%	
Oct. 2004	3.5%	2.25%	2.05%	
Nov. 2004	3.5%	2.25%	2.05%	
Dec. 2004	3.5%	2.25%	2.05%	
Jan. 2005	3.5%	2.25%	2.05%	
Feb. 2005	3.5%	2.25%	2.05%	
March 2005	3.5%	2.25%	2.05%	
April 2005	3.5%	2.25%	2.05%	

May 2005	3.5%	2.25%	2.25%	Since CMT rate that determined actual NF rate of 2.05% occurred more than 15 months ago, the actual rate MUST be updated. Given the method, this means this rate is based on March CMT rate (monthly average with a one month lag – see description in method for this example).
June 2005	3.5%	2.25%	2.25%	
July 2005	3.5%	2.25%	2.25%	

Example 3 – Shows what to do when 1% floor comes into play

Method – This example starts with an initial NF rate based on a single point in time. The potential rate is determined based on the preceding month CMT average. If the potential rate differs from the actual rate by more than 25 bps, the actual rate is updated. This example shows how to handle statutory minimums (use the same logic for maximums).

Date	5 Year CMT Monthly Average	Potential NF rate	Actual NF Rate	Comments
Dec. 2003	2.4%	N/a	N/a	Starting month for the block – this sets the "peg in the ground"
Jan. 2004	2.3%	1.15%	1.15%	Initial Rate for block
Feb. 2004	2.3%	1.05%	1.15%	
March 2004	2.25%	1.05%	1.15%	
April 2004	2.25%	1.0%	1.15%	
May 2004	2.1%	1.0%	1.15%	
June 2004	2.1%	0.85%	1.0%	The potential rate is not subject to statutory minimums and maximums. It must be unbounded in order to determine if a change of more than 25 bps has occurred. In this case, it has, so the actual rate is updated, factoring in statutory minimums and maximums.
July 2004	2.1%	0.85%	1.0%	
Aug. 2004	2.1%	0.85%	1.0%	

Example 4 – real life 5 year CMT averages

Method – Monthly average 5 year CMT with a one month lag time. NF rate is updated whenever there is a change of plus or minus 50 bps. Note that rounding has not been incorporated into this example.

http://www.federalreserve.gov/releases/h15/current/h15.pdf and
Http://www.treas.gov/offices/domestic-finance/debt-management/interest-rate/index.html

	(1) CMT Rate	(2) Potential NF Rate	(3) Actual NF Rate	
Original Rate			2.94	assumed as a given
July 2002	3.81	2.56	2.94	
Aug. 2002	3.29	2.04	2.04	
Sept. 2002	2.94	1.69	2.04	
Oct. 2002	2.95	1.70	2.04	
Nov. 2002	3.05	1.80	2.04	
Dec. 2002	3.03	1.78	2.04	
Jan. 2003	3.05	1.80	2.04	
Feb. 2003	2.90	1.65	2.04	
March 2003	2.78	1.53	1.53	
April 2003	2.93	1.68	1.53	
May 2003	2.52	1.27	1.53	
June 2003	2.27	1.02	1.02	
July2003	2.87	1.62	1.62	
Aug. 2003	3.37	2.12	1.62	

(1) = monthly average 5 year CMT from above named sources
(2) = monthly average minus 125 bps – "potential NF rate"
(3) = actual rate according to a value triggered method with range of plus or minus 50 bps

Note – the above examples are just that – examples. There are many more methods that could be used that may also be appropriate.

Appendix B

Transfer of minimum nonforfeiture amount for Section 6.

This example will show a simple demonstration of how the minimum nonforfeiture amount is to be transferred in an equity-indexed annuity under Section 6. Assume that the 5 year CMT is 3.75%. This results in a fixed annuity nonforfeiture rate of 2.5%. Further assume that the equity-indexed benefit receives the additional 100 bps reduction, so its nonforfeiture rate is 1.5%. This contract has a fixed interest option within an EIA. The policyholder may transfer money on any contract anniversary. Assuming there are transfers, the minimum nonforfeiture amount is path dependent. The minimum nonforfeiture amount will roll forward and get transferred back and forth at the "bucket" level, then added together for the contract level minimum nonforfeiture amount.

Year 1

Policyholder initially allocates 50% of premium each to fixed and equity-indexed buckets.

EIA bucket = 50% * 100,000 * 87.5% * 1.015 = 44,406.25
Fixed = 50% * 100,000 * 87.5% * 1.025 = 44,843.75

The total minimum nonforfeiture amount is 44,406.25 + 44,843.75 = 89,250.00.

Year 2

At the end of year 1, assume that due to market performance, the *contract value* is now allocated 60% in the equity-indexed bucket and 40% in the fixed bucket. The policyholder decides to re-allocate his contract value so that it is again at 50% in the equity-indexed bucket and 50% in the fixed interest bucket. This means that $1/6^{th}$ (10% out of the 60%) of the equity-indexed contract value is transferred to the fixed interest CV. Thus, $1/6^{th}$ of the equity-indexed minimum nonforfeiture amount is transferred to the fixed minimum nonforfeiture amount. The results follow:
EIA bucket = 44,406.25 – 7,401.04 = 37,005.21.
Fixed bucket = 44,843.75 + 7,401.04 = 52,244.79.
Note that the total minimum nonforfeiture amount remains level at 89,250.00.

Year 2 calculations are identical to year 1 with the adjusted starting values.

EIA = 37,005.21 * 1.015 = 37,560.29
Fixed = 52,244.79 * 1.025 = 53,550.91
Total = 91,111.20

With different starting allocations and re-allocations, all the calculations operate the same, but would be adjusted "accordingly."

Initial Actuarial Certification of Compliance with (identify state regulation that corresponds to the Annuity Nonforfeiture Model Regulation)

For use with Equity-Indexed Annuity policy forms at time of filing~~ using either the Cost Basis or Market Value method~~.

I, (state name and professional designation) am responsible for evaluating compliance with the (identify state law and regulation that corresponds to the Standard Nonforfeiture Law for Individual Deferred Annuities and the Annuity Nonforfeiture Model Regulation) for (name of insurance company). I have reviewed (identify policy form) and am familiar with the (identify state law and regulation that corresponds to the Standard Nonforfeiture Law for Individual Deferred Annuities and the Annuity Nonforfeiture Model Regulation) as they pertain to equity-indexed annuities. I have reviewed the determination of the interest rate used to calculate minimum nonforfeiture amounts. I have reviewed the~~application of the (Identify methodology – Cost Basis or Market Value) method and~~ assumptions used to support the additional reduction that is permitted to be used with equity-indexed annuities if certain conditions are met.

Based on my review, I certify that the nonforfeiture values provided under (identify policy form) meet the minimum nonforfeiture value requirements of the (identify state law and regulation that corresponds to the Standard Nonforfeiture Law for Individual Deferred Annuities and the Annuity Nonforfeiture Model Regulation).

____

(Name of actuary)

____

(Signature of actuary)

____

(Date of certification)

On-going Actuarial Certification of Compliance with (identify state regulation that corresponds to the Annuity Nonforfeiture Model Regulation)

For use in certifying on-going compliance with the (identify state regulation that corresponds to the Annuity Nonforfeiture Model Regulation).

I, (state name and professional designation) am responsible for evaluating compliance with the (identify state law and regulation that corresponds to the Standard Nonforfeiture Law for Individual Deferred Annuities and the Annuity Nonforfeiture Model Regulation) for (name of insurance company). I am familiar with the (identify state law and regulation that corresponds to the Standard Nonforfeiture Law for Individual Deferred Annuities and the Annuity Nonforfeiture Model Regulation) as they pertain to equity-indexed annuities. I have reviewed the equity index features of (identify all policy forms covered by this~~certification and, for each form, state whether the Cost Basis method or the Market Value method was used to determine eligibility for any additional reduction in calculating minimum nonforfeiture values and whether the method changed during the preceding calendar year)~~certification) for ongoing compliance with the requirements of (identify state regulation that corresponds to the Annuity Nonforfeiture Model Regulation) that deal with the additional reduction relating to equity-indexed annuities. I have reviewed the~~application of the Cost Basis method or Market Value method, as applicable, and~~ assumptions used to support the additional reduction that is permitted to be used with equity-indexed annuities.

Based on my review, I certify that the additional reduction used to determine nonforfeiture values provided under the policy forms identified above met the requirements of (identify state regulation that corresponds to the Annuity Nonforfeiture Model Regulation) as it relates to equity-indexed annuities during (identify calendar year).

____

(Name of actuary)

____

(Signature of actuary)

____

(Date of certification)