AMERICAN ACADEMY *of* ACTUARIES

MEMORANDUM

To: NAIC Life & Health Actuarial Task Force

From: American Academy of Actuaries Annuity Nonforfeiture Implementation Work Group

Subject: Draft Model Regulation

Date: 2/26/2004

ANNUITY NONFORFEITURE MODEL REGULATION

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 is used in referencing the value of the five-year Constant Maturity Treasury (CMT) Rate. The basis could use specified dates, dates dependent upon change in CMT levels, or any other date dependent methodology approved by the Commissioner. At the discretion of the Company, the basis may be initiated at the time of approval in this jurisdiction or may be a continuation of the basis being used in other jurisdictions where the contract was previously approved.

[Drafting Note: 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.]

(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. For purposes of this Regulation and by the authority in the Standard Nonforfeiture Law for Individual Deferred Annuities – Section 4. D., 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.

C. "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.]

D. "Initial nonforfeiture rate" means the nonforfeiture rate applicable at contract issue.

E. "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.

F. "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).

G. "Premium bucket" refers to an accounting device for allocating premium dollars allocated to a benefit option within an annuity. Within an annuity that contains equity indexed benefits, a company must have separate premium buckets for each allocation option within the annuity (e.g., a fixed interest option and each possible indexing option). In addition, a company may choose to have unique premium buckets for each premium received or transfer made or it may have a single premium bucket for all premiums and transfers received. Premium bucket is considered part of the basis.

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 25 basis points or more attributable to that equity indexed benefit.

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.

[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 certificate) are allowed at any time subject to jurisdictional filing and approval requirements.

Section 6 Nonforfeiture Rate and Minimum Nonforfeiture Amount

C. At any point in time, each premium bucket will have one nonforfeiture rate. If an additional offset is elected for equity indexed benefits, the premium buckets may have additional lower nonforfeiture rates applicable to each such equity indexed premium buckets.

D. The minimum nonforfeiture amount for the contract is determined by calculating the minimum nonforfeiture amount for each premium bucket and summing the results.

E. In the case of a transfer from one premium bucket 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 of the policy fee in the same manner.

Section 7 Equity Indexed Benefits

A. If a company chooses to take the additional offset provided under [insert applicable references to Section 4C of the Standard Nonforfeiture Law for Individual Deferred Annuities], the company must choose either the cost basis approach or the market value approach for demonstrating 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 certification and compliance demonstration requirements as section 7A.

C. The cost basis approach utilizes the following steps:

(1) Take the contract's guaranteed product features, such as the guaranteed participation rate, guaranteed 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 in the middle of the index term.

(3) 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 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 an offset 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 offset 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 offset. The offset 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 offset shall be recalculated for each index term.

(10) The company shall prepare an actuarial certification that the offset complies with requirements [insert reference] at the time that the contract form is filed 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 (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 in the middle of 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 an offset is available equal to the lesser of 100 basis points and the annual market value.

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

(9) The company shall prepare an actuarial certification that the offset 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 (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.]

E. If the Commissioner determines that the additional offset 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 such additional offset.

Section 8 Effective Date

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

Appendix 1

Illustrations of indexing methods

Example 1

Method – For each calendar year, the rate is set based on the monthly average from November of the preceding year. That rate will remain constant unless there is a change in the monthly average 5 year CMT of at least 25 bps, up or down. In that event, the NF rate that is used will adjust based on that new monthly average, which will again stay constant for the remainder of the year, unless there is another change in the 5 year CMT of at least 25 bps.

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%	1.75%	No change since less than 25 bps change in 5 year CMT rate (potential rate is from preceding month for administrative ease)
Mar. 2004	3.3%	1.95%	1.75%	March average is more than 25 bps different from current rate – change NF rate for following month
Apr. 2004	3.3%	2.05%	2.05%	NF rate increases based off of March average rate
May. 2004	3.1%	2.05%	2.05%	
Jun. 2004	3.1%	1.85%	2.05%	
Jul. 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%	
Sep. 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
Mar. 2005	2.8%	1.55%	1.35%	
Apr. 2005	2.8%	1.55%	1.35%	
May. 2005	3.25%	1.55%	1.35%	
Jun. 2005	3.25%	2.0%	2.0%	Update rate since more than 25 bps change
Jul. 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 5 year CMT rate changes 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 is based off a one month average with a one month lag for a contract form that will launch in January of 2004. The range is plus or minus 25 basis points. So for issues in January 2004, the rate is based on November 2003 monthly average. For all issues after January 2004, the rate will change only if there has been a 25 bps move or more in the 5 year CMT rate. 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%	
Mar. 2004	**3.5%**	1.85%	1.75%	
Apr. 2004	3.5%	2.05%	2.05%	
May. 2004	3.5%	2.25%	2.05%	
Jun. 2004	3.5%	2.25%	2.05%	
Jul. 2004	3.5%	2.25%	2.05%	
Aug. 2004	3.5%	2.25%	2.05%	
Sep. 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%	
Mar. 2005	3.5%	2.25%	2.05%	
Apr. 2005	3.5%	2.25%	2.05%	

May. 2005	3.5%	2.25%	2.25%	Must be updated since 3.3% occurred more than 15 months ago
Jun. 2005	3.5%	2.25%	2.25%	
Jul. 2005	3.5%	2.25%	2.25%	

Example 3 – relatively level interest rate environment

This is exactly the same as example 2, except that the rate does not increase to 3.5% until May of 2004.

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%	
Mar. 2004	3.3%	1.85%	1.75%	
Apr. 2004	3.3%	2.05%	2.05%	
May. 2004	**3.5%**	2.05%	2.05%	
Jun. 2004	3.5%	2.05%	2.05%	
Jul. 2004	3.5%	2.25%	2.05%	
Aug. 2004	3.5%	2.25%	2.05%	
Sep. 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%	
Mar. 2005	3.5%	2.25%	2.05%	
Apr. 2005	3.5%	2.25%	2.05%	
May. 2005	3.5%	2.25%	2.05%	
Jun. 2005	3.5%	2.25%	2.05%	
Jul. 2005	3.5%	2.25%	2.25%	Must be updated since 3.3% occurred more than 15 months ago

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.

http://www.federalreserve.gov/releases/h15/current/h15.pdf and

http://www.treas.gov/offices/domestic-finance/debt-management/interest-rate/index.html

	(1) Rate	(2) NF Calc	(3) New rate	
Original Rate			2.94	assumed as a given
July-02	3.81	2.56	2.94	
August-02	3.29	2.04	2.04	
September-02	2.94	1.69	2.04	
October-02	2.95	1.70	2.04	
November-02	3.05	1.80	2.04	
December-02	3.03	1.78	2.04	
January-03	3.05	1.80	2.04	
February-03	2.90	1.65	2.04	
March-03	2.78	1.53	1.53	
April-03	2.93	1.68	1.53	
May-03	2.52	1.27	1.53	
June-03	2.27	1.02	1.02	
July-03	2.87	1.62	1.62	
August-03	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) = new rate according to a value triggered method with range of plus or minus 50 bps

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

Appendix 2

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 entire 100 bps offset, so its nonforfeiture rate is 1.5%. This contract has a fixed account 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”.

Appendix 3

Example of nonforfeiture rates with multiple premium buckets for a fixed annuity.

This is a fixed annuity. It has annual redetermination. The following nonforfeiture rates are calculated in accordance with the basis that was filed and approved.

January 2000	2.5%
February 2000	2.2%
…	
…	
January 2001	2.7%
February 2001	2.9%

The initial premium of 1,000 is received on January 15, 2000, and is allocated to a premium bucket with a nonforfeiture rate of 2.5%. An additional premium of 1,000 is received on February 15, 2000, and is allocated to a premium bucket with a rate of 2.2%.

On January 15, 2001, the nonforfeiture amount for the first bucket (ignoring any adjustment contract fee) is 1,000 * 1.025 = 1,025. This premium bucket has a new nonforfeiture rate for the following year of 2.7%.

On February 15, 2001, the nonforfeiture amount for the second bucket (again ignoring contract fee) is 1,000 * 1.022 = 1,022. This premium bucket has a new nonforfeiture rate for the following year of 2.9%.

Similarly, on January 15, 2002, the nonforfeiture amount for the first bucket is now 1,025 * 1.027 = 1,052.68. On February 15, 2002, the nonforfeiture amount for the second bucket is now 1,022 * 1.029 = 1,051.64.

DRAFT for DISCUSSION PURPOSES

Actuarial Certification of Compliance with Annuity Nonforfeiture 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 Annuity Nonforfeiture Law for Individual Deferred Annuities and the Annuity Nonforfeiture Regulation for (name of insurance company). I have reviewed (identify policy form) and am familiar with the Standard Nonforfeiture Law for Individual Deferred Annuities and the Annuity Nonforfeiture 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 offset 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 Annuity Nonforfeiture Law for Individual Deferred Annuities and the Annuity Nonforfeiture Regulation.

_____

(Name of actuary)

_____

(Signature of actuary)

_____

(Date of certification)

DRAFT for DISCUSSION PURPOSES

Actuarial Certification of Compliance with Annuity Nonforfeiture Regulation

For use in certifying on-going compliance with the Annuity Nonforfeiture Regulation.

I, (state name and professional designation) am responsible for evaluating compliance with the Annuity Nonforfeiture Law for Individual Deferred Annuities and the Annuity Nonforfeiture Regulation for (name of insurance company). I am familiar with the Standard Nonforfeiture Law for Individual Deferred Annuities and the Annuity Nonforfeiture 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 offset in calculating minimum nonforfeiture values and whether the method changed during the preceding calendar year) for ongoing compliance with the requirements of (identify state regulation that corresponds to the NAIC Model Annuity Nonforfeiture Regulation) that deal with the additional offset 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 offset that is permitted to be used with equity indexed annuities.

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

_____

(Name of actuary)

_____

(Signature of actuary)

_____

(Date of certification)