Multi-State Review Actuarial Memoranda Formats & Rating Requirements

Actuarial Memoranda General Submission Requirements

An actuarial memoranda, signed by a qualified actuary who is a Member of the American Academy of Actuaries, must be provided. The actuarial memoranda must contain sufficient information to determine compliance with minimum nonforfeiture values as required by the Multi-State Review Standards. Such information shall include (but is not limited to):

- The methodology for establishing minimum nonforfeiture values. This methodology must provide the formulas and assumptions in sufficient detail for the department analyst to calculate the minimum nonforfeiture values at any point in time.
- A numerical demonstration of compliance based on issue age 35, along with assumptions necessary for the department analyst to calculate the minimum nonforfeiture amounts. This demonstration should provide 20 years of the contract's guaranteed cash surrender values and calculated minimum nonforfeiture amounts.
- A certification from a qualified actuary that the contract will comply with the minimum nonforfeiture requirements of the Multi-State Review Standards regardless of any change to the minimum nonforfeiture interest rate or any other changes provided by the contract.
- Any additional offset to the nonforfeiture interest rate for an equity-indexed benefit shall meet compliance with the current draft exposure or subsequent NAIC adoption of the Annuity Nonforfeiture Model Regulation by the Life Health Actuarial Task Force of the National Association of Insurance Commissioners (NAIC).

Equity Indexed Benefits

The actuarial memoranda must contain the following information:

- A description of the product.
- A description of the index used:
  - Describe the external index used and the criteria for selecting a substitute index if the current index is no longer in existence or applicable. Advance notification would be provided to the insurance department on the substitute index, the rationale for replacing the existing index and the substitute index used for in-force contracts.
- A description of how index-based benefits are calculated:
  - It must provide descriptions, complete with formula definitions, of how index-based benefits are calculated under level, up and down index scenarios. Include a description, complete with an algorithm, if any, of how the index-based benefits are set initially at product launch and how they are planned to be reset subsequent to product launch. If the contract contains a cap or floor for the indexed benefits,

then the minimum cap and minimum floor for all indexed periods/terms should be addressed in the actuarial memoranda.

- A demonstration of compliance with the applicable nonforfeiture requirements.

Guaranteed Living Benefits

Actuarial Certification and Memoranda Required. The actuarial memoranda must contain:

- Support for the reasonableness and sufficiency of the pricing to support the guarantees provided, including a description of how the benefit charge is calculated.
- The reason for any continuation of the charge after the benefit is terminated, if applicable.
- The reason must include the investment strategy and instrument used.
- For a Guaranteed Minimum Withdrawal Benefit, a demonstration reflecting contract values with and without the benefit. The demonstration shall include:
  - Accumulated Value
  - Guaranteed Minimum Withdrawal Benefit Charge
  - Guaranteed Withdrawal Balance
  - Guaranteed Annual Withdrawal Amount
  - Cash Surrender Value

Modified Guaranteed Annuity

A modified guaranteed annuity shall be subject to Multi-State Review standards for Individual Deferred Fixed Annuities with regard to Nonforfeiture values computed under the terms of the annuity but excluding from the computation the effect of market-value adjustment factors.

A modified guaranteed annuity shall be subject to Multi-State Review standards for Group Deferred Fixed Annuities with regard to Nonforfeiture values computed under the terms of the annuity but excluding from the computation the effect of market-value adjustment factors.

Nonforfeiture Values/Computation of Values

(a) (1) The minimum nonforfeiture amount at any time at or prior to the commencement of any annuity payments shall be equal to an accumulation up to that time, at the rates of interest indicated in subdivision (b) of the net considerations (as hereinafter defined) paid prior to that time, decreased by the sum of all of the following:

(A) Any prior withdrawals from or partial surrenders of the contract, accumulated at the rates of interest indicated in subdivision (b)

(B) An annual contract charge of fifty dollars ($50), accumulated at the rates of interest indicated in subdivision (b)

(C) Any state premium tax paid by the company for the contract, accumulated at the rates of interest indicated in subdivision (b) However, the minimum nonforfeiture amount may not be decreased by this amount if the premium tax is subsequently credited back to the company.

(D) The amount of any indebtedness to the company on the contract, including interest due and accrued.

(2) The net considerations used to define the minimum nonforfeiture amount shall be an amount equal to 87.5 percent of the gross considerations credited to the contract.

(b) The interest rate used in determining minimum nonforfeiture amounts shall be an annual rate of interest determined as the lesser of 3 percent per annum and the following, which shall be specified in the contract if the interest rate will be reset:

(1) The five-year Constant Maturity Treasury (CMT) Rate reported by the Federal Reserve as of a date, or averaged over a period, rounded to the nearest one-twentieth of 1 percent, specified in the contract no longer than 15 months prior to the contract issue date or redetermination date under paragraph (2), reduced by 125 basis points, where the resulting rate is not less than 1 percent.

(2) The interest rate shall apply for an initial period and may be redetermined for additional periods. The redetermination date, basis, and period, if any, shall be stated in the contract. The basis is the date, or average over a specified period, which produces the value of the five-year Constant Maturity Treasury Rate to be used at each redetermination date.

To the extent that a variable annuity contract provides benefits that do not vary in accordance with the investment performance of a separate account before the annuity commencement date, the contract values shall satisfy the requirements on standards.

NCV01 through NCV09

The method, for determining the interest rate in NCV1(b) applicable at contract issue, shall be disclosed in an actuarial memoranda submitted with the contract form.

The method for determining the interest rate in NCV1(b) shall base the selection of the five-year CMT rate on a specific date(s) or on a date(s) dependent upon changes in CMT levels. 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. An example of an unacceptable method is one that is a continuous change to the lowest rate over a specified period.

The contract form shall not permit insurer discretion in the timing of redetermining the nonforfeiture interest rate unless the result of re-determining the rate would be a higher nonforfeiture rate.

At any point in time each contract will have its nonforfeiture interest rate(s) based on one calculated value of the five-year Constant Maturity Treasury Rate.

An additional offset to the nonforfeiture interest rate is allowed for a deferred annuity equity-indexed benefit. The maximum additional offset is 100 basis points. Any such offset must comply with requirements in the actuarial memoranda section of the MSRP standards.

For any contract which provides, within the same contract by rider or supplemental contract provision, both annuity benefits and life insurance benefits that are in excess of the greater of cash surrender benefits or a return of the gross considerations with interest, the minimum nonforfeiture benefits shall be equal to the sum of the minimum nonforfeiture benefits for the annuity portion and the minimum nonforfeiture benefits, if any, for the life insurance portion computed as if each portion were a separate contract.

Notwithstanding the provisions of NCV08, NCV09, and NCV13, additional benefits payable

(a) in the event of total and permanent disability,

(b) as reversionary annuity or deferred reversionary annuity benefits, or

(c) as other contract benefits additional to life insurance, endowment, and annuity benefits, and considerations for all such additional benefits, shall be disregarded in ascertaining the minimum nonforfeiture amounts, paid-up annuity, cash surrender and death benefits that may be required by this Standard. The inclusion of such additional benefits shall not be required in any paid-up benefits, unless such additional benefits separately would require minimum nonforfeiture amounts, paid-up annuity, cash surrender and death benefits.

For contracts which provide cash surrender benefits, such cash surrender benefits available prior to maturity shall not be less than the present value as of the date of surrender of that portion of the maturity value of the paid-up annuity benefit which would be provided under the contract at maturity arising from considerations paid prior to the time of cash surrender reduced by the amount appropriate to reflect any prior withdrawals from or partial surrenders of the contract, such present value being calculated on the basis of an interest rate not more than 1 percent higher than the interest rate specified in the contract for accumulating the net considerations to determine such maturity value, decreased by the amount of any indebtedness to the company on the contract, including interest due and accrued, and increased by any existing additional amounts credited by the company to the contract.

In no event shall any cash surrender benefit be less than the minimum nonforfeiture amount at that time. The death benefit under such contracts shall be at least equal to the cash surrender benefit.

For contracts which do not provide cash surrender benefits, the present value of any paid-up annuity benefit available as a nonforfeiture option at any time prior to maturity shall not be less than the present value of that portion of the maturity value of the paid-up annuity benefit provided under the contract arising from considerations paid prior to the time the contract is surrendered in exchange for, or changed to, a deferred paid-up annuity, such present value being calculated for the period prior to the maturity date on the basis of the interest rate specified in the contract for accumulating the net considerations to determine such maturity value, and increased by any existing additional amounts credited by the company to the contract.

For contracts which do not provide any death benefits prior to the commencement of any annuity payments, such present values shall be calculated on the basis of such interest rate and the mortality table specified in the contract for determining the maturity value of the paid-up annuity benefit.

However, in no event shall the present value of a paid-up annuity benefit be less than the minimum nonforfeiture amount at that time.

In the case of annuity contracts under which an election may be made to have annuity payments commence at optional maturity dates, the maturity date shall be deemed to be the latest date for which election shall be permitted by the contract, but shall not be deemed to be later than the anniversary of the contract next following the annuitant's seventieth birthday or the tenth anniversary of the contract, whichever is later.

The present value of any paid-up annuity benefit available under the contract shall be such that its present value on the date annuity payments are to commence is at least equal to the minimum nonforfeiture amount on that date. Such present value shall be computed using the mortality table, if any, and the interest rate specified in the contract for determining the minimum paid-up annuity benefits guaranteed in the contract.

For benefits which vary based on the performance of a separate account, the minimum values of any paid-up annuity, cash surrender, or death benefits shall be based upon nonforfeiture amounts meeting the requirements of NCV10 and NCV11. The minimum nonforfeiture amount on any date prior to the annuity commencement date shall be an amount equal to the percentages of net considerations, as provided below, increased (or decreased) by the net investment return allocated to the percentages of net considerations, which amount shall be reduced to reflect the effect of:

(i) any partial withdrawals from or partial surrenders of the contract;

(ii) the amount of any indebtedness on the contract,

including interest due and accrued;

(iii) an annual contract charge not less than zero nor greater than $30 less the amount of any annual contract charge deducted from any gross considerations credited to the contract during such contract year; and

(iv) a transaction charge of $10 for each transfer to another separate account or to another investment division within the same separate account.

The percentages of net considerations used to define the minimum nonforfeiture amount shall meet the following requirements

With respect to contracts providing for periodic considerations, the net considerations for a given contract year used to define the minimum nonforfeiture amount shall be an amount not less than zero and shall be equal to the corresponding gross considerations credited to the contract during that contract year less an annual contract charge of $30 and less a collection charge of $1.25 per consideration credited to the contract during that contract year. The percentages of net considerations shall be 65% for the first contract year and 87.5% for the second and later contract years. Notwithstanding the provisions of the preceding sentence, the percentage shall be 65% of the portion of the total net consideration for any renewal contract year which exceeds by not more than two times the sum of those portions of the net considerations in all prior contract years for which the percentage was 65%.

A demonstration must be provided showing that the nonforfeiture amounts are in compliance with the following assumptions:

- A table reflecting 20 years of values for the separate account;
- An investment return of 7% per year for the separate account;
- A monthly consideration of $100.

Note: Expense and mortality charges for the variable account can only be deducted from the separate account.

For benefits which vary based on the performance of a separate account, the minimum values of any paid-up annuity, cash surrender, or death benefits shall be based upon nonforfeiture amounts meeting the requirements of this NCV10S and NCV11. The minimum nonforfeiture amount on any date prior to the annuity commencement date shall be an amount equal to the percentage of net consideration, as provided below, increased (or decreased) by the net investment return allocated to the percentage of net consideration, which amount shall be reduced to reflect the effect of:

(i) any partial withdrawals from or partial surrenders of the contract;

(ii) the amount of any indebtedness on the contract, including interest due and accrued;

(iii) an annual contract charge not less than zero nor greater than $30 less the amount of any annual contract charge deducted from any gross considerations credited to the contract during such contract year; and

(iv) a transaction charge of $10 for each transfer to another separate account or to another investment division within the same separate account.

The percentage of the net consideration used to define the minimum nonforfeiture amount shall meet the following requirements:

The net consideration used to define the minimum nonforfeiture amount shall be the gross consideration less a contract charge of $75.

The percentage of net consideration shall be 90%.

A demonstration must be provided showing that the nonforfeiture amounts are in compliance with the following assumptions:

- A table reflecting 20 years of values for the separate account;
- An investment return of 7% per year for the separate account;
- A single consideration of $10,000.

Note: Expense and mortality charges for the variable account can only be deducted from the separate account.

The present value of any paid-up annuity benefit available under the contract shall be such that its present value on the date annuity payments are to commence is at least equal to the minimum nonforfeiture amount on that date. Such present value shall be computed using the mortality table, if any, and the guaranteed or assumed interest rates specified in the contract for calculating annuity payments.

Any paid-up annuity, cash surrender or death benefits available at any time shall be calculated with allowance for the lapse of time and the payment of any scheduled considerations beyond the beginning of the contract year.

Persistency Bonus

Persistency bonus must be disclosed in the contract and included in minimum nonforfeiture determinations.

Surrender Charges

All surrender charge schedules and classes must be defined in the actuarial memoranda.

Variability of Information

The guaranteed minimum interest rate may be bracketed as variable and changed without refiling only if it is a function of the nonforfeiture interest rate that complies with Standard NCV01(b). If the guaranteed minimum interest rate is a function of the nonforfeiture interest rate, a provision indicating the method and manner of determination, adjustment and any redetermination must be provided and clearly expressed in the contract on the same page as the bracketed rate.

The guaranteed minimum interest rate may be bracketed as variable and changed without re-filing only if it is a function of the nonforfeiture interest rate that complies with Standard NCV01(b). If the guaranteed minimum interest rate is a function of the nonforfeiture interest rate, a provision indicating the method and manner of determination, adjustment and any re-determination must be provided and clearly expressed in the contract on the same page as the bracketed rate.

All submissions for approval of a change shall be accompanied by a demonstration, if applicable, signed by a member of the American Academy of Actuaries, that the contract continues to comply with the Multi-State Review Standards.

The company may also identify product specifications that may be changed without prior notice or approval, as long as the Statement on Variability presents reasonable and realistic ranges for the item. These items include:

- interest rate guarantee periods,
- bonus interest rates or credits applied to premiums,
- persistency of anniversary interest rates or credits,

- tiering levels for credits and charges,
- minimum premium limits,
- maximum premium limits,
- minimum withdrawal amounts,
- minimum loan amounts,
- amounts available for any penalty free withdrawals,
- charges for supplemental benefits and options,
- any ages assumed in the calculations of benefits and options.

Any change to a range requires a refiling for prior approval and shall be accompanied by a demonstration, if applicable, signed by a member of the American Academy of Actuaries that the contract continues to comply with the Multi-State Review standards.

NCV08, NCV09, and NCV13NCV08

Or contracts which provide cash surrender benefits, such cash surrender benefits available prior to maturity shall not be less than the present value as of the date of surrender of that portion of the maturity value of the paid-up annuity benefit which would be provided under the contract at maturity arising from considerations paid prior to the time of cash surrender reduced by the amount appropriate to reflect any prior withdrawals from or partial surrenders of the contract, such present value being calculated on the basis of an interest rate not more than 1 percent higher than the interest rate specified in the contract for accumulating the net considerations to determine such maturity value, decreased by the amount of any indebtedness to the company on the contract, including interest due and accrued, and increased by any existing additional amounts credited by the company to the contract. In no event shall any cash surrender benefit be less than the minimum nonforfeiture amount at that time. The death benefit under such contracts shall be at least equal to the cash surrender benefit. For contracts which do not provide cash surrender benefits, the present value of any paid-up annuity benefit available as a nonforfeiture option at any time prior to maturity shall not be less than the present value of that portion of the maturity value of the paid-up annuity benefit provided under the contract arising from considerations paid prior to the time the contract is surrendered in exchange for, or changed to, a deferred paid-up annuity, such present value being calculated for the period prior to the maturity date on the basis of the interest rate specified in the contract for accumulating the net considerations to determine such maturity value, and increased by any existing additional amounts credited by the company to the contract. For contracts which do not provide any death benefits prior to the commencement of any annuity payments, such present values shall be calculated on the basis of such interest rate and the mortality table specified in the contract for determining the maturity value of the paid-up annuity benefit. However, in no event shall the present value of a paid-up annuity benefit be less than the minimum nonforfeiture amount at that time. In the case of annuity contracts under which an election may be made to have annuity payments commence at optional maturity dates, the maturity date shall be deemed to be the latest date for which election shall be permitted by the contract, but shall not be deemed to be later than the anniversary of the contract next following the annuitant's seventieth birthday or the tenth anniversary of the contract, whichever is later.

NCV09

The present value of any paid-up annuity benefit available under the contract shall be such that its present value on the date annuity payments are to commence is at least equal to the minimum nonforfeiture amount on that date. Such present value shall be computed using the mortality table, if any, and the interest rate specified in the contract for determining the minimum paid-up annuity benefits guaranteed in the contract.

NCV13

Any paid-up annuity, cash surrender or death benefits available at any time shall be calculated with allowance for the lapse of time and the payment of any scheduled considerations beyond the beginning of the contract year.

NCV10

For benefits which vary based on the performance of a separate account, the minimum values of any paid-up annuity, cash surrender, or death benefits shall be based upon nonforfeiture amounts meeting the requirements of NCV10 and NCV11. The minimum nonforfeiture amount on any date prior to the annuity commencement date shall be an amount equal to the percentages of net considerations, as provided below, increased (or decreased) by the net investment return allocated to the percentages of net considerations, which amount shall be reduced to reflect the effect of: (i) any partial withdrawals from or partial surrenders of the contract; (ii) the amount of any indebtedness on the contract, including interest due and accrued; (iii) an annual contract charge not less than zero nor greater than $30 less the amount of any annual contract charge deducted from any gross considerations credited to the contract during such contract year; and (iv) a transaction charge of $10 for each transfer to another separate account or to another investment division within the same separate account. The percentages of net considerations used to define the minimum nonforfeiture amount shall meet the following requirements With respect to contracts providing for periodic considerations, the net considerations for a given contract year used to define the minimum nonforfeiture amount shall be an amount not less than zero and shall be equal to the corresponding gross considerations credited to the contract during that contract year less an annual contract charge of $30 and less a collection charge of $1.25 per consideration credited to the contract during that contract year. The percentages of net considerations shall be 65% for the first contract year and 87.5% for the second and later contract years. Notwithstanding the provisions of the preceding sentence, the percentage shall be 65% of the portion of the total net consideration for any renewal contract year which exceeds by not more than two times the sum of those portions of the net considerations in all prior contract years for which the percentage was 65%. A demonstration must be provided showing that the nonforfeiture amounts are in compliance with the following assumptions: - A table reflecting 20 years of values for the separate account; - An investment return of 7% per year for the separate account; - A monthly consideration of $100. Note: Expense and mortality charges for the variable account can only be deducted from the separate account.

NCV11

The present value of any paid-up annuity benefit available under the contract shall be such that its present value on the date annuity payments are to commence is at least equal to the minimum nonforfeiture amount on that date. Such present value shall be computed using the mortality table, if any, and the guaranteed or assumed interest rates specified in the contract for calculating annuity payments.

NCV10S

For benefits which vary based on the performance of a separate account, the minimum values of any paid-up annuity, cash surrender, or death benefits shall be based upon nonforfeiture amounts meeting the requirements of this NCV10S and NCV11. The minimum nonforfeiture amount on any date prior to the annuity commencement date shall be an amount equal to the percentage of net consideration, as provided below, increased (or decreased) by the net investment return allocated to the percentage of net consideration, which amount shall be reduced to reflect the effect of: (i) any partial withdrawals from or partial surrenders of the contract; (ii) the amount of any indebtedness on the contract, including interest due and accrued; (iii) an annual contract charge not less than zero nor greater than $30 less the amount of any annual contract charge deducted from any gross considerations credited to the contract during such contract year; and (iv) a transaction charge of $10 for each transfer to another separate account or to another investment division within the same separate account. The percentage of the net consideration used to define the minimum nonforfeiture amount shall meet the following requirements: The net consideration used to define the minimum nonforfeiture amount shall be the gross consideration less a contract charge of $75. The percentage of net consideration shall be 90%. A demonstration must be provided showing that the nonforfeiture amounts are in compliance with the following assumptions: - A table reflecting 20 years of values for the separate account; - An investment return of 7% per year for the separate account; - A single consideration of $10,000. Note: Expense and mortality charges for the variable account can only be deducted from the separate account.

NCV11

The present value of any paid-up annuity benefit available under the contract shall be such that its present value on the date annuity payments are to commence is at least equal to the minimum nonforfeiture amount on that date. Such present value shall be computed using the mortality table, if any, and the guaranteed or assumed interest rates specified in the contract for calculating annuity payments.

NCV01(b)

The interest rate used in determining minimum nonforfeiture amounts shall be an annual rate of interest determined as the lesser of 3 percent per annum and the following, which shall be specified in the contract if the interest rate will be reset:

(1) The five-year Constant Maturity Treasury (CMT) Rate reported by the Federal Reserve as of a date, or averaged over a period, rounded to the nearest one-twentieth of 1 percent, specified in the contract no longer than 15 months prior to the contract issue date or redetermination date under paragraph (2), reduced by 125 basis points, where the resulting rate is not less than 1 percent.

(2) The interest rate shall apply for an initial period and may be redetermined for additional periods. The redetermination date, basis, and period, if any, shall be stated in the contract. The basis is the date, or average over a specified period, which produces the value of the five-year Constant Maturity Treasury Rate to be used at each redetermination date.