



A M E R I C A N A C A D E M Y *of* A C T U A R I E S

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**Report of the American Academy of Actuaries’  
Life Valuation Subcommittee**

**Presented to the National Association of Insurance Commissioners’  
Life and Health Actuarial Task Force**

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Life Valuation Subcommittee

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The following report is a continuation of the work performed by the Academy’s Annuity Nonforfeiture Implementation Work Group. It is based on reserving aspects of the new Standard Nonforfeiture Law for Individual Deferred Annuities, particularly the guaranteed nonforfeiture benefits to be used in the CARVM calculation under the new law.

## **Annuity SNFL Impact on Reserves**

Per the Standard Valuation Law, Commissioner's Annuity Reserve Valuation Method (CARVM) is:

“the greatest of the respective excesses of the present values, at the date of valuation, of the future guaranteed benefits, *including guaranteed nonforfeiture benefits*, provided for by the contracts at the end of each respective contract year, over the present value, at the date of valuation, of any future valuation considerations derived from future gross considerations, required by the terms of the contract, that become payable prior to the end of the respective contract year.”

Historically the guaranteed nonforfeiture benefit calculation has been determined at issue (e.g. 90 percent of premiums accumulated at three percent interest). The recent change to the Standard Nonforfeiture Law for Individual Deferred Annuities has changed this.

### **Nonforfeiture Rate**

The new Standard Nonforfeiture Law for Individual Deferred Annuities has changed the nonforfeiture rate from being static to being dynamic. Under the old law, the nonforfeiture interest rate was three percent. The revised law bases the nonforfeiture rate on the five-year Constant Maturity Treasury Rate less 125 basis points (bps). The nonforfeiture rate is subject to a minimum of one percent and a maximum of three percent. Additional enhancements include the ability to reset the nonforfeiture rate at a date predetermined in the contract and allowing an additional reduction (offset) for Equity Indexed Annuities.

The nonforfeiture rate can be reset at a date predetermined in the contract (e.g. five years from issue) and based on a formula specified in the contract. The same requirements applicable to the initial rate apply to the re-determined rate.

The revised law allows an additional offset to the nonforfeiture rate for contracts that provide substantive participation in an equity indexed benefit. This offset ranges from 0 bps to 100 bps.

The ability to re-determine the nonforfeiture rate and that the EIA offset may be reevaluated in the future raises some issues with the CARVM calculation.

In doing a CARVM projection, what should be the assumed interest rate? Should the option depend on whether there are re-determination provisions? Should the option depend on whether the product relies on an equity indexed offset? Some options are:

**Option 1:** The minimum of one percent

Pros:

- Easy to understand and implement.
- Rate is set in advance.

Cons:

- May not adequately reflect the flexible nature of the nonforfeiture interest rate.

**Option 2:** The maximum of three percent

Pros:

- Easy to understand and implement.
- Rate is set in advance.
- This is the rate that would have prevailed the most over the past 40 years.

Cons:

- May not adequately reflect the flexible nature of the nonforfeiture interest rate.
- May overstate values in a low interest rate environment.

**Option 3:** The contract's initial nonforfeiture rate

Pros:

- Easy to understand.

Cons:

- May not adequately reflect the flexible nature of the nonforfeiture interest rate.
- Company needs to track the initial nonforfeiture rate, even if it is no longer otherwise applicable to the policy form.
- May not reflect the current interest rate environment.

**Option 4:** No change from the current nonforfeiture rate for the policy

Pros:

- Easy to understand and implement.

Cons:

- May not adequately reflect the flexible nature of the nonforfeiture interest rate.
- May not reflect the current interest rate environment.

**Option 5:** The rate as if it were calculated on the valuation date

Pros:

- Would be consistent with the current rate expectation, “best estimate”.
- Reflects the flexible nature of the nonforfeiture interest rate.
- Could be an easier implementation because all of the contracts within the same plan code would have the same rate.

Cons:

- Could be a more complicated implementation, depending on company’s systems abilities.
- The rate may change at each valuation date.

**Option 6:** Use the historical long-term rate (pre-set)

Pros:

- Easy to understand and implement.
- Rate is set in advance.
- This is the rate that would have prevailed the most over the years used to set this rate.

Cons:

- May overstate values in a low interest rate environment.
- May not adequately reflect the flexible nature of the nonforfeiture interest rate.

**Option 7:** Use a fixed rate set by policy year of issue based on five-year CMT averaging period set by the NAIC

Pros:

- Easy to understand and implement.

Cons:

- May not work well for business valued on a change-in-fund basis.
- May not adequately reflect the flexible nature of the nonforfeiture interest rate.
- Introduces a new interest rate to track.

The above items are strictly for the calculation of the nonforfeiture benefits. The minimum guaranteed interest rate in the contract might be different than the minimum nonforfeiture rate. To the extent that the guaranteed values in the contract are always greater than the minimum nonforfeiture benefits, then the nonforfeiture values do not come into play.