



AMERICAN ACADEMY *of* ACTUARIES

**Report of the Variable Life Reserving Guideline Work Group
to the Innovative Products Working Group
of the NAIC's Life and Health Actuarial Task Force
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This report was prepared by the Academy's Variable Life Reserving Guideline Work Group of the Committee on State Life Insurance Issues.

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I. Introduction

At the March NAIC meeting, members of the NAIC Life and Health Actuarial Task Force (LHATF) asked the Academy of Actuaries (AAA) to assist LHATF in identifying the proper basis for reserving for Guaranteed Minimum Death Benefits (GMDB) contained in Variable Life (VL) products, which would provide the basis for an Actuarial Guideline. Steve Preston, Chair of the AAA Life Committee asked Burt Jay to form an AAA Working Group to complete this assignment. This Work Group is known as the Variable Life Reserve Work Group (VLRWG). The VLRWG defines GMDBs as any benefit that guarantees that a policy will remain in-force regardless of whether the policy value is less than or equal to zero.

II. Recommendations

The VLRWG has met several times by conference call and has developed the following recommendations:

- The valuation requirements for GMDBs in VL contracts should be described in an Actuarial Guideline which interprets the Standard Valuation Law (SVL), rather than the Model Variable Life Regulation (MVL). There are two versions of the MVL, a 1983 and a 1989 version. A few states have adopted the 1989 version, a few more the 1983 version, two or three have a unique or hybrid version, and a number of states have no specific requirements. A Guideline to a regulation that has not been widely adopted would not provide for uniform practice. A Guideline to the SVL will have nationwide application. We believe that a Guideline with the features that we will describe exemplifies the principles of the SVL and describes how these principles apply to specific situations in much the same manner as recently implemented Guidelines #33 and #34.
- The Guideline should contain the following requirements for the basic reserves for VL contracts: “Reserve Liabilities for variable life insurance policies shall be established consistent with the methodologies described in Standard Valuation Law and in accordance with actuarial procedures that recognize the variable nature of the benefits provided and any mortality guarantees. Reserve methods described in the Variable Life Model Regulation, Universal Life Insurance Model Regulation and the Valuation of Life Insurance Policies Model Regulation may be appropriately utilized to determine reserve liabilities such that application of these methods is consistent with the principles of the Standard Valuation Law. Any additional reserves required shall be calculated consistent with the assumptions and methodologies used to determine basic reserve liabilities.”
- The Guideline should require additional reserves for GMDBs contained in VL contracts equal to the greater of 1) “the aggregate total of the term costs” (1YT), which covers a period of no more than one year following a 1/3 drop in the account value, and 2) “the attained age level” reserve (AALR), which covers the entire period

of the guarantee, but requires no immediate drop in account value. Both the 1YT and the AALR components are defined in the 1989 version of the Model Variable Life Regulation. The actuarial assumptions and methods to be used to calculate the 1YT and the AALR components are described in Section III below.

Using minimum valuation assumptions for VL policies, the VLRWG believes that the basic reserves as described above together with the additional reserves for GMDBs also described, provide for ample conservatism. In the Work Group's opinion, the application of the Valuation of Life Insurance Policies Model Regulation requirements to VL policies is not needed, especially since the method described here would require more conservative mortality assumptions than are allowed by that Regulation.

The VLRWG also believes that the recommended Guideline would not be in conflict with existing VL Model Regulations. The VLRWG believes that a reasonable interpretation of the VL Model regulation to value the liabilities for a GMDB which requires specified premiums to sustain the GMDB, is to use the same methodology as is specified for a scheduled premium contract regardless of whether the underlying contract is a flexible premium policy. This is consistent with the type of benefit provided and is also consistent with the 1989 version of the Regulation, and avoids problems with the 1983 version. As such, the VLRWG encourages all states with the 1983 version of the Model Regulation to consider adopting the 1989 version. Certain single premium or paid up VL policies with remaining GMDBs and no further payment requirements could be considered an exception to the no conflict statement above with regard to the "flexible premium policy" provision of the 1983 version of the Model VL Regulation.

Other details will need to be considered if a guideline is drafted to implement this recommendation. How should the AALR be calculated for policies that have been in force for several years, or would the guideline apply only to policies issued after it is adopted? Should it be calculated on a policy year, calendar year, monthly or annual basis?

The Academy VLRWG appreciates this opportunity to assist the NAIC with this project and would be pleased to work with the LHATF in the drafting of a Guideline if this recommendation is accepted.

III. Issues to be Addressed in the Variable Life Reserve Guideline

There are currently many interpretations concerning the reserving methodology for Variable life guaranteed minimum death benefits. Guaranteed minimum death benefits include any provision that guarantees the death benefit. The company must have enough reserves that if only statutory minimum reserve interest and mortality are experienced, the company can pay the guaranteed minimum death benefit. With the acceptance of regulation XXX excluding Variable life products, it was clear that guidance was necessary for variable life guaranteed minimum death benefits. The Variable Life Reserve Work Group has developed a proposal for guidelines to be used when reserving these guaranteed minimum death benefits. Below is our recommendation of assumptions to use.

In review of the one-year term (1YT) reserve, it is appropriate that this reserve adequately provides for short-term volatility and thus should only be applicable for a one-year period. With respect to the attained age level (AAL) reserve, we believe it is appropriate to assume the AAL reserve was meant for the ongoing risk of under-performance by the funds and thus should cover the entire potential guaranteed period. In addition, we believe that the guaranteed minimum death benefits with a premium requirement should be treated consistently whether scheduled or flexible premium policies. This is the position incorporated in the 1989 revision to the regulation.

Projection assumptions are used in determining the basic reserve, AAL reserve, and 1YT reserve. The appropriate assumptions used in the determination of the projected values need to be clarified. There is much variability of assumptions in the industry. Below are the interpretations for the projection assumptions that we have come to a consensus with:

- In the variable life regulation, reference is made to a 1/3-asset drop. There is no asset drop assumed for the AAL reserve. For the 1YT reserve, the 1/3-asset drop shall only apply to the assets in the variable account. The fixed assets in the general account do not need to assume this 1/3-asset drop since volatility risk does not to be addressed for these assets.
- All guaranteed charges, including any policy charges and cost of insurance charges, are used in the projection. All asset-based administrative and M&E charges should not be included for this projection.
- The interest rate used in the projection is the lesser of the valuation rate and guaranteed interest rate for the fixed account. This net interest rate should not be further modified by deduction of the asset-based charges.
- The assumed premiums used in the projection should be the gross premiums required to continue the guarantee, reduced by any premium loads. The valuation will need to take into account what has happened in the past, what guarantees are still available to the policy-owner, and what payment(s) are required to keep the policy guarantee. Therefore, if no additional premium is

required, no on-going premium should be assumed. If the policy has a “catch-up” provision, the premium assumption will assume the policy-owner would pay the required premiums at the time of valuation. If additional payment(s) have been prepaid, the assumption is made that future premium payments will not be made until required. These premiums are net of premium loads.

For the AAL reserve and 1YT reserve calculations, many inconsistencies in the industry exist in the calculation of the term costs. The term cost is to cover the period of time the projected policy value reduces to zero to the end of the guaranteed period for the AAL reserve or the end of the one year period for the 1YT reserve. The main assumptions we feel are appropriate for this calculation are addressed below.

- The excess death benefit is the face amount when the projected policy value reduces to 0 that is payable due only to the guarantee. Our interpretation of this is that both the projected guaranteed death benefit and the death benefit in absence of the guarantee are based on the guarantees within the policy.
- The term costs should be based on minimum valuation mortality or minimum standards.
- The discounting interest rate should be the maximum valuation interest rate.
- The discounting mortality should be based on the minimum valuation mortality or minimum standards. The use of select factors for the discounting mortality and the timing of this valuation should be optional.
- The potential guaranteed period covered should be based on current status with any “catch-up” provision taken into account.
- In determination of the period for which charges for this risk are collected, it was determined to use the period for which premiums are collected for this benefit. If no premiums are required for this period, the period should be the lesser of the period that the policy value is positive and the guaranteed period.

We believe this reserve for the guaranteed minimum death benefits should be an additive reserve. However, the valuation actuary should have the authority to deem this additive reserve redundant if the alternate minimum calculation would drive the basic reserve to a conservative level. It was determined that the reserve should be based on the entire contract, not the variable account only. In addition, if the policy does not contain a “catch-up” provision, the benefit will cease at the point when the premium requirement has not been met and no reserve should be required for the benefit. When a policy contains more than one guaranteed minimum death benefit, the minimum reserve should be the greatest of the respective minimum reserves at that valuation date of each un-expired guaranteed minimum death benefits, ignoring all other guaranteed minimum death benefits. All guarantees need to be accounted for in the reserving methodology. This would include any guarantee that is not applicable until a later duration.

Furthermore, if the guarantee is in rider form, the base and rider are valued together as an entire policy.