Life Actuarial (A) Task Force

Amendment Proposal Form*

1. Identify yourself, your affiliation and a very brief description (title) of the issue.

   Dave Neve, chairperson of the American Academy of Actuaries Life Reserves Work Group.
   Clarification of the existing VM-20 wording regarding the modeling of policy loans and separate account assets, and the list of assets in starting assets.

2. Identify the document, including the date if the document is "released for comment," and the location in the document where the amendment is proposed:

   Sections 4, 5, and 7 of VM-20 in the version of the Valuation Manual adopted Aug. 29, 2016.

3. Show what changes are needed by providing a red-line version of the original verbiage with deletions and identify the verbiage to be deleted, inserted or changed by providing a red-line (turn on "track changes" in Word®) version of the verbiage. (You may do this through an attachment.)

   See attached.

4. State the reason for the proposed amendment? (You may do this through an attachment.)

   The current VM-20 wording is somewhat confusing on the treatment of policy loans and separate account (SA) assets. Per Section 7.D., the opening balance of policy loans and SA assets as of the valuation date are included in starting assets. But then in section 4.A., the opening balance of policy loans and SA assets are included as a cash outflow in the PV of benefits, expenses, and related amounts. Including the opening balance of policy loans and SA assets in starting assets, but then treating them as cash outflows at time 0, has led to confusion in how to properly model these types of assets. This proposal does not alter the reserve calculation, but moves the "time 0" cash flows for policy loans and SA assets listed in section 4.A.3. to the beginning of section 4.A. as an adjustment to the deterministic reserve. The proposal also clarifies the process to accumulate these assets in section 4.B. and section 5.B.

   This proposal also tightens up the current wording of the SA transfer cash flows in Section 4.A.4.b., and adds clarifying wording to the calculation of the deterministic reserve in Section 4.A. and the list of items in starting assets in Section 7.D.

   These changes have no impact on the reserve calculation; they only add clarifying wording.

* This form is not intended for minor corrections, such as formatting, grammar, cross–references or spelling. Those types of changes do not require action by the entire group and may be submitted via letter or email to the NAIC staff support person for the NAIC group where the document originated.

NAIC Staff Comments:

Dates: Received	Reviewed by Staff	Distributed	Considered
Notes:			

Section 4. Deterministic Reserve

For a group of one or more policies for which a deterministic reserve is to be calculated, the company shall calculate the deterministic reserve for the group using the method described in either Subsection A or Subsection B of this section.

A. Calculate the deterministic reserve equal to the actuarial present value of benefits, expenses, and related amounts less the actuarial present value of premiums and related amounts in compliance with the applicable requirements in Section 7, 8, and 9 using the deterministic scenario described in Section 7.G.1., less the positive or negative PIMR balance at the valuation date allocated to the group of one or more policies being modeled under Section 7.D.6, plus the balance of separate account assets on the valuation date, and plus the policy loan balance at the valuation date with appropriate reflection of any relevant due, accrued, or unearned loan interest (if policy loans are explicitly modeled under Section 7.F.3.b) where:

3. The actuarial present value of benefits, expenses and related amount equals the sum of:

   a. Present value of future benefits, but before netting the repayment of any policy loans;

      Guidance Note: Future benefits include but are not limited to death and cash surrender benefits.

   b. Present value of future expenses excluding federal income taxes and expenses paid to provide fraternal benefits in lieu of federal income taxes;

   ~~c. Policy account value invested in the separate account at the valuation date; and~~

   ~~d. Policy loan balance at the valuation date with appropriate reflection of any relevant due, accrued or unearned loan interest, if policy loans are explicitly modeled under Section 7.F.3.~~

4. The actuarial present value of premiums and related amounts equals the sum of the present values of:

   a. Future gross premium payments and/or other applicable revenue;

   b. Future ~~net~~ cash flows to ~~or from~~ the general account~~, or~~ from ~~or to~~ the separate account, less cash flows from the general account to the separate account;

   c. Future net policy loan cash flows, if policy loans are explicitly modeled under Section 7.F.3.b;

      Guidance Note: Future net policy loan cash flows include: policy loan interest paid in cash plus repayments of policy loan principal, including repayments occurring at death or surrender (note that the future benefits in Section 4.A.3.a. are before consideration of policy loans), less additional policy loan principal (but excluding policy loan interest that is added to the policy loan principal balance).

B. Calculate the deterministic reserve as a – b, where

a = the aggregate annual statement value of those starting assets which, when projected along with all premium and investment income, result in the liquidation of all projected future benefits and expenses by the end of the projection horizon. Under this alternative, the following considerations apply:

1. Cash flows are projected in compliance with the applicable requirements in Section 7, Section 8 and Section 9 over the single scenario described in Section 7.G.1.

2. The requirements for future benefits and premiums in Section 4.A apply as well to the calculation of the deterministic reserve under this subsection.

3. The balance of policy loans on the valuation date (if explicitly modeled under Section 7.F.3.b) and the balance of separate account assets on the valuation date are projected forward each period in compliance with the applicable changes in these asset balances as defined in Section 7.

b = that portion of the PIMR amount allocated under Section 7.D.

Section 5. Stochastic Reserve

B. Calculate the scenario reserve for each stochastically generated scenario as follows:

1. For each model segment at the model start date and end of each projection year, calculate the discounted value of the negative of the projected statement value of general account and separate account assets using the path of discount rates for the model segment determined in compliance with Section 7.H.4 from the projection start date to the end of the respective projection year. The balance of policy loans on the valuation date (if explicitly modeled under Section 7.F.3.b) and the balance of separate account assets on the valuation date are projected forward each period in compliance with the applicable changes in these asset balances as defined in Section 7.

Section 7 Cash Flow Models

D. Starting Assets

1. For each model segment, the company shall select starting assets such that the aggregate annual statement value of the assets at the projection start date equals the estimated value of the modeled reserve plus the PIMR balance on the projection start date, allocated to the policies in the appropriate model segment. ~~subject to the following:~~

~~a. Starting asset values shall include the relevant balance of any due, accrued or unearned investment income.~~

2. ~~b.~~ For an asset portfolio that supports both policies that are subject and not subject to these requirements, the company shall determine an equitable method to apportion the total amount of starting assets between the subject and non-subject policies.

3. If for all model segments combined, the aggregate annual statement value of starting assets is less than 98% or greater than the larger of NPR or 102% of the final modeled reserve, the company shall provide documentation in the PBR Actuarial Report that provides reasonable assurance that the modeled reserve is not materially understated as a result of the estimate of the amount of starting assets.

~~3.~~4. The company shall select starting assets for each model segment that consists of the following:

a. All separate account assets supporting the policies.

b. All policy loans supporting the policies that are explicitly modeled under Section 7.F.3.b~~E~~.

c. The relevant balance of any due, accrued, or unearned investment income

d. ~~e~~All derivative instruments held at the projection start date that are part of a derivative program and can be appropriately allocated to the model segment.

e. ~~d~~An amount of other general account assets such that the aggregate value of starting assets meets the requirements in Section 7.D.1. These assets shall generally be selected on a consistent basis from one reserve valuation to the next. Any material change in the selection methodology shall be documented in the PBR Actuarial Report.

F. Cash Flows from Invested Assets

3. Determine cash flows for each projection interval for policy loan assets by modeling existing loan balances either explicitly, or by substituting assets that are a proxy for policy loans (e.g., bonds, cash, etc.) subject to the following:

b. If the company models policy loans explicitly, the company shall:

i. Treat policy loan activity as an aspect of policyholder behavior and subject to the requirements of Section 9.D.

ii. For both the deterministic reserve and the stochastic reserve, assign loan balances either to exactly match each policy's utilization or to reflect average utilization over a model segment or sub-segments.

iii. Model policy loan interest in a manner consistent with policy provisions and with the scenario. In calculating the deterministic reserve and stochastic reserve, include interest paid in cash as a positive policy loan cash flow in that projection interval, per Section 4.A.4, but do not include interest added to the loan balance as a policy loan cash flow (the increased balance will require increased repayment cash flows in future projection intervals).

iv. Model policy loan principal repayments, including those which occur automatically upon death or surrender. In calculating the deterministic reserve and the stochastic reserve, include policy loan principle repayments as a positive policy loan cash flow, per Section 4.A.4.

v. Model additional policy loan principal. In calculating the deterministic and stochastic reserve, include additional policy loan principal as a negative policy loan cash flow, per Section 4.A.4. (but do not include interest added to the loan balance as a negative policy loan cash flow).