**Life Actuarial (A) Task Force/ Health Actuarial (B) Task Force**

**Amendment Proposal Form\***

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

**Identification:**

PBR Staff of Texas Department of Insurance

**Title of the Issue:**

Add a section for other assumptions requirement in VM-21 which covers general guidance and requirements for assumptions, and expense assumptions.

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:

VM-21 Section 1.C.2.b, VM-21 Section 12, VM-21 Section 13, VM-21 Section 1.B, VM-21 Section 10.A, VM-31 Section 3.F.3.d, VM-31 Section 3.F.13.d

January 1, 2021 NAIC Valuation Manual

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.)

A new section is needed in VM-21 to provide general guidance and requirements for assumptions, similar to VM-20, to address assumption reporting issues identified in VM-21 PBR report reviews, e.g., some companies don’t discuss regular assumption reviews for any necessary updates. In addition, this section provides the specific requirements for assumptions that have not been covered in previous sections of VM-21, i.e., the expense assumptions. VM-21 is not very explicit about expenses (e.g., whether they are fully allocated or include one-time expenses).  For VM-20, we have had some material impacts from how companies treat one-time expenses that may be multi-year but temporary.  Companies could understate expenses if there is no adjustment for periodic or other recurrent expenses in expense study years where they do not occur. This APF is to make the VM-21 expense assumption requirement explicit and consistent with what is specified in VM-20 Section 9.E. The new section can also be used to cover any other assumptions requirements that need to be addressed in the future. The reporting requirement of the sensitivity testing and the impact of margin analysis is added to VM-31 to help regulators better understand how companies comply with the newly added assumption guidance and requirements.

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**VM-21 Section 1.C.2.b**

1. Liability risks
   1. Reinsurer default, impairment or rating downgrade known to have occurred before or on the valuation date.
   2. Mortality/longevity, persistency/lapse, partial withdrawal and premium payment risks.
   3. Utilization risk associated with guaranteed living benefits.
   4. Anticipated mortality trends based on observed patterns of mortality improvement or deterioration, where permitted.
   5. Annuitization risks.
   6. Additional premium dump-ins (high interest rate guarantees in low interest rate environments).
   7. Applicable expense risks, including fluctuation in maintenance expenses directly attributable to the business, future commission expenses, and expense inflation/growth.

**VM-21 Section 12 (new)**

Section 12: Other Guidance and Requirements for Assumptions

A. Overview

This section provides guidance and requirements in general for setting prudent estimate assumptions when determining either the stochastic reserve or the reserve for any contracts determined using the Alternative Methodology. It also provides specific guidance and requirements for expense assumptions.

B. General Assumption Requirements

* 1. The company shall use prudent estimate assumptions for risk factors that are not stochastically modeled by applying margins to the anticipated experience assumptions if such risk factors have been categorized as material risks by following Section 1.B Principle 3 and requirements in Section 12.C.
  2. The company shall establish the prudent estimate assumptions for risk factors in compliance with the requirements in Section 12 of Model #820 and must periodically review and update the assumptions as appropriate in accordance with these requirements.
  3. The company shall model the following risk factors stochastically unless the company elects the Alternative Methodology defined in Section 7:
     + - 1. Interest rate movements (i.e., Treasury interest rate curves).
         2. Equity performance (e.g., Standard & Poor’s 500 index [S&P 500] returns and returns of other equity investments).
  4. If the company elects to stochastically model risk factors in addition to the economic scenarios, the requirements in this section for determining prudent estimate assumptions for these risk factors do not apply.

**Guidance Note:** It is expected that companies will not stochastically model risk factors other than the economic scenarios, such as contract holder behavior or mortality, until VM-21 has more specific guidance and requirements available. Companies shall discuss with domiciliary regulators if they wish to stochastically model other risk factors.

* 1. The company shall use its own experience, if relevant and credible, to establish an anticipated experience assumption for any risk factor. To the extent that company experience is not available or credible, the company may use industry experience or other data to establish the anticipated experience assumption, making modifications as needed to reflect the circumstances of the company.
     + - 1. For risk factors (such as mortality) to which statistical credibility theory may be appropriately applied, the company shall establish anticipated experience assumptions for the risk factor by combining relevant company experience with industry experience data, tables or other applicable data in a manner that is consistent with credibility theory and accepted actuarial practice.
         2. For risk factors (such as utilization of guaranteed living benefits) that do not lend themselves to the use of statistical credibility theory, and for risk factors (such as some of the lapse assumptions) to which statistical credibility theory can be appropriately applied but cannot currently be applied due to lack of industry data, the company shall establish anticipated experience assumptions in a manner that is consistent with accepted actuarial practice and that reflects any available relevant company experience, any available relevant industry experience, or any other experience data that are available and relevant. Such techniques include:

1. Adopting standard assumptions published by professional, industry or regulatory organizations to the extent they reflect any available relevant company experience or reasonable expectations.
2. Applying factors to relevant industry experience tables or other relevant data to reflect any available relevant company experience and differences in expected experience from that underlying the base tables or data due to differences between the risk characteristics of the company experience and the risk characteristics of the experience underlying the base tables or data.
3. Blending any available relevant company experience with any available relevant industry experience and/or other applicable data using weightings established in a manner that is consistent with accepted actuarial practice and that reflects the risk characteristics of the underlying contracts and/or company practices.
   * + - 1. For risk factors that have limited or no experience or other applicable data to draw upon, the assumptions shall be established using sound actuarial judgment and the most relevant data available, if such data exists.
         2. For any assumption that is set in accordance with the requirements of Section 12.B.5.c, the qualified actuary to whom responsibility for this group of contracts is assigned shall use sensitivity testing and disclose the analysis performed to ensure that the assumption is set at the conservative end of the plausible range.
         3. The qualified actuary, to whom responsibility for this group of contracts is assigned, shall annually review relevant emerging experience for the purpose of assessing the appropriateness of the anticipated experience assumption. If the results of statistical or other testing indicate that previously anticipated experience for a given factor is inadequate, then the qualified actuary shall set a new, adequate, anticipated experience assumption for the factor.
   1. The company shall sensitivity test risk factors that are not stochastically modeled and examine the impact on the stochastic reserve. The company shall update the sensitivity tests periodically as appropriate. The company may update the tests less frequently, but no less than every 3 years, when the tests show less sensitivity of the stochastic reserve to changes in the assumptions being tested or the experience is not changing rapidly. Providing there is no material impact on the results of the sensitivity testing, the company may perform sensitivity testing:
4. Using samples of the contracts in force rather than performing the entire valuation for each alternative assumption set.
5. Using data from prior periods.

**Guidance Note:** Sensitivity testing every risk factor on an annual basis is not required. For some risk factors, it may be reasonable, in lieu of sensitivity testing, to employ statistical measures for margins, such as adding one or more standard deviations to the anticipated experience assumption.

* 1. The company shall vary the prudent estimate assumptions from scenario to scenario within the stochastic reserve calculation in an appropriate manner to reflect the scenario-dependent risks.

1. Assumption Margins

The company shall include margins to provide for adverse deviations and estimation error in the prudent estimate assumption for each risk factor that is not stochastically modeled or prescribed, subject to the following:

* + 1. The level of margin applied to the anticipated experience assumptions may be determined in aggregate or independently as discussed in Section 1.B Principle 3. It is not permissible to set a margin less toward the conservative end of the spectrum to recognize, in whole or in part, implicit or prescribed margins that are present, or are believed to be present, in other risk factors.

Risks that are stochastically modeled (e.g., interest rates, equity returns) or have prescribed margins or guardrails (e.g., assets, revenue sharing) shall be considered material risks. Other risks generally considered to be material include, but are not limited to, mortality, contract holder behavior, maintenance and overhead expenses, inflation and implied volatility. In some cases, the list of material risks may also include acquisition expenses, partial withdrawals, policy loans, annuitizations, account transfers and deposits, and/or option elections that contain an element of anti-selection.

* + 1. The greater the uncertainty in the anticipated experience assumption, the larger the required margin, with the margin added or subtracted as needed to produce a larger modeled TAR than would otherwise result. For example, the company shall use a larger margin when:

a. The experience data have less relevance or lower credibility.

b. The experience data are of lower quality, such as incomplete, internally inconsistent or not current.

c. There is doubt about the reliability of the anticipated experience assumption, such as, but not limited to, recent changes in circumstances or changes in company policies.

d. There are constraints in the modeling that limit an effective reflection of the risk factor.

* + 1. In complying with the sensitivity testing requirements in Section 12.B.6 above, greater analysis and more detailed justification are needed to determine the level of uncertainty when establishing margins for risk factors that produce greater sensitivity on the stochastic reserve.
    2. A margin is permitted but not required for assumptions that do not represent material risks.
    3. A margin should reflect the magnitude of fluctuations in historical experience of the company for the risk factor, as appropriate.
    4. The company shall apply the method used to determine the margin consistently on each valuation date but is permitted to change the method from the prior year if the rationale for the change and the impact on the stochastic reserve is disclosed.

D. Expense Assumptions

* 1. General Prudent Estimate Expense Assumption Requirements

In determining prudent estimate expense assumptions, the company:

* + 1. May spread certain information technology development costs and other capital expenditures over a reasonable number of years in accordance with accepted statutory accounting principles as defined in the Statements of Statutory Accounting Principles.

**Guidance Note:** Care should be taken with regard to the potential interaction with the inflation assumption below.

* + 1. Shall assume that the company is a going concern.
    2. Shall choose an appropriate expense basis that properly aligns the actual expense to the assumption. If values are not significant, they may be aggregated into a different base assumption.

**Guidance Note**: For example, death benefit expenses should be modeled with an expense assumption that is per death incurred.

* + 1. Shall reflect the impact of inflation.
    2. Shall not assume future expense improvements.
    3. Shall not include assumptions for federal income taxes (and expenses paid to provide fraternal benefits in lieu of federal income taxes) and foreign income taxes.
    4. Shall use assumptions that are consistent with other related assumptions.
    5. Shall use fully allocated expenses.

**Guidance Note:** Expense assumptions should reflect the direct costs associated with the block of contracts being modeled, as well as indirect costs and overhead costs that have been allocated to the modeled contracts.

1. Shall allocate expenses using an allocation method that is consistent across company lines of business. Such allocation must be determined in a manner that is within the range of actuarial practice and methodology and consistent with applicable ASOPs. Allocations may not be done for the purpose of decreasing the stochastic reserve.
2. Shall reflect expense efficiencies that are derived and realized from the combination of blocks of business due to a business acquisition or merger in the expense assumption only when any future costs associated with achieving the efficiencies are also recognized.

**Guidance Note:** For example, the combining of two similar blocks of business on the same administrative system may yield some expense savings on a per unit basis, but any future cost of the system conversion should also be considered in the final assumption. If all costs for the conversion are in the past, then there would be no future expenses to reflect in the valuation.

1. Shall reflect the direct costs associated with the contracts being modeled, as well as an appropriate portion of indirect costs and overhead (i.e., expense assumptions representing fully allocated expenses should be used), including expenses categorized in the annual statement as “taxes, licenses and fees” (Exhibit 3 of the annual statement) in the expense assumption.
2. Shall include acquisition expenses associated with business in force as of the valuation date and significant non-recurring expenses expected to be incurred after the valuation date in the expense assumption.
3. For contracts sold under a new policy form or due to entry into a new product line, the company shall use expense factors that are consistent with the expense factors used to determine anticipated experience assumptions for contracts from an existing block of mature contracts taking into account:
   * + 1. Any differences in the expected long-term expense levels between the block of new contacts and the block of mature contracts.
       2. That all expenses must be fully allocated as required under Section 12.D.1.h above.

2. Margins for Prudent Estimate Expense Assumptions

The company shall determine margins for expense assumptions following Section 12.C.

**VM-21 Section 13**

**Section 13: Allocation of the Aggregate Reserve to the Contract Level**

**VM-21 Section 1.B**

**Principle 3:** The implementation of a model involves decisions about the experience assumptions and the modeling techniques to be used in measuring the risks to which the company is exposed. Generally, assumptions are to be based on the conservative end of the confidence interval. The choice of a conservative estimate for each assumption may result in a distorted measure of the total risk. Conceptually, the choice of assumptions and the modeling decisions should be made so that the final result approximates what would be obtained for the stochastic reserve at the required CTE level if it were possible to calculate results over the joint distribution of all future outcomes. In applying this concept to the actual calculation of the stochastic reserve, the company should be guided by evolving practice and expanding knowledge base in the measurement and management of risk.

**Guidance Note:** The intent of Principle 3 is to describe the conceptual framework for setting assumptions. Section 10 provides the requirements and guidance for setting contract holder behavior assumptions and includes alternatives to this framework if the company is unable to fully apply this principle. More guidance and requirements for setting assumptions in general are provided in Section 12.

**VM-21 Section 10.A**

**Section 10: Contract Holder Behavior Assumptions**

A. General

Contract holder behavior assumptions encompass actions such as lapses, withdrawals, transfers, recurring deposits, benefit utilization, option election, etc. Contract holder behavior is difficult to predict accurately, and variance in behavior assumptions can significantly affect the results. In the absence of relevant and fully credible empirical data, the company should set behavior assumptions as guided by Principle 3 in Section 1.B and Section 12.

**VM-31 Section 3.F.3.d**

1. Liability Assumptions and Margins – A listing of the assumptions and margins used in the projections to determine the stochastic reserve, including a discussion of the source(s) and the rationale for each assumption:
   * 1. Premiums and Subsequent Deposits – Description of premiums and subsequent deposits.
     2. Interest Crediting Strategy – Description of the interest crediting strategy.
     3. Commissions – Description of commissions, including any commission chargebacks.
     4. Expenses Other than Commissions – Description and listing of insurance company expenses other than commissions, such as overhead, including:
        1. Method used to allocate expenses to the contracts included in a principle- based valuation under VM-21 and a statement confirming that expenses have been fully allocated in accordance with VM-21 Section 12.D.1.h.
        2. Method used to apply the allocated expenses to model segments or sub- segments within the cash-flow model.
        3. Identification of types of costs that were spread, and for how many years, if any cost spreading was done pursuant to VM-21 Section 12.D.1.a.
        4. Method used to determine margins.

**VM-31 Section 3.F.13.c (new)**

c. Sensitivity Tests – For each distinct product type for which margins were established:

i. List the specific sensitivity tests performed for each risk factor or combination of risk factors.

ii. Indicate whether the reserve was calculated based on the anticipated experience assumptions or prudent estimate assumptions for all other risk factors while performing the tests.

iii. Provide the numerical results of the sensitivity tests for both reserves and capital.

iv. Explain how the results of sensitivity tests were used or considered in developing assumptions.

**VM-31 Section 3.F.13.d (new)**

d. Impact of Margin

Company can perform the impact of margin analysis using off-cycle data. The analysis can be done less frequently than annual unless there is change or update in the margins, but not less frequently than every 3 years.

Impact of Margins for Each Risk Factor – The impact of margins on the stochastic reserve for each risk factor, or group of risk factors, that has a material impact on the stochastic reserve, determined by subtracting (i) from (ii), expressed in both dollar amounts and percentages:

* + - 1. The CTE70(best efforts), as outlined in VM-21 Section 9.C, but with the reserve calculated based on the anticipated experience assumption for the risk factor and prudent estimate assumptions for all other risk factors.
      2. The CTE70(best efforts), as outlined in VM-21 Section 9.C, for that group of contracts as reported.
      3. Repeat the impact analysis using the same method on CTE(98) levels.

**Guidance Note:** Pursuant to VM-21, margins must increase TAR, so the impact of each margin, as calculated above on CTE(98), must be positive.

Aggregate Impact of Margins – the aggregate impact of all margins on the stochastic reserve for that group of contracts determined by subtracting (1) from (2), expressed in both dollar amounts and percentages:

* + - 1. The CTE70(best efforts), as outlined in VM-21 Section 9.C, for that group of contracts, but with the reserve calculated based on anticipated experience assumptions for all risk factors prior to the addition of any margins.
      2. The CTE70(best efforts), as outlined in VM-21 Section 9.C, for that group of contracts as reported.
      3. Repeat the impact analysis using the same method on CTE(98) levels.

Impact of Implicit Margins – For purposes of the disclosures required in 13.d.ii and 13.d.iii above:

* + - 1. If the company believes the method used to determine anticipated experience assumptions includes an implicit margin, the company can adjust the anticipated experience assumptions to remove this implicit margin for this reporting purpose only. If any such adjustment is made, the company shall document the rationale and method used to determine the anticipated experience assumption.
      2. Since the company is not required to determine an anticipated experience assumption or a prudent estimate assumption for risk factors that are prescribed (i.e., interest rates movements, equity performance, default costs and net spreads on reinvestment assets), when determining the impact of margins, the prescribed assumption shall be deemed to be the prudent estimate assumption for the risk factor, and the company can elect to determine an anticipated experience assumption for the risk factor, based on the company's anticipated experience for the risk factor. If this is elected, the company shall document the rationale and method used to determine the anticipated experience assumption.