**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:**

1. Address determination of materiality. VM-21 often refers to materiality but is missing a discussion on how materiality is determined.
2. Address use of approximations and simplifications in VM-21.

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.E (new), VM-21 Section 3.H (new), VM-31 Section 3.E.1, VM-31 Section 3.F.2.e

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.)

1. VM-21 often refers to materiality but is missing a discussion on how materiality is determined (a materiality standard), as VM-20 has in VM-20 Section 2.H. Moreover, the current language of Materiality in the VA Summary in VM-31 Section 3.E.1 (**2021** edition) is based on the Life PBR Summary in VM-31 (**2019** edition). The language of Materiality in the VA Summary in Section 3.E.1 of VM-31 should be updated, consistent with adding a new section to VM-21 to address materiality.

For reference, here are the relevant VM-20 passages:

***VM-20 Section 2.H***

*The company shall establish, for the DR and SR, a standard containing the criteria for determining whether an assumption, risk factor or other element of the principle-based valuation has a material impact on the size of the reserve. This standard shall be applied when identifying material risks. Such a standard shall also apply to the NPR with respect to VM-20 Section 2.G.*

***VM-31 Section 3.C.1***

*Life Summary –The PBR Actuarial Report shall contain a Life Summary of the critical elements of all sub-reports of the Life Report as detailed in Section 3.D. In particular, this Life Summary shall include:*

1. *VM-20 Materiality – The standard established by the company pursuant to VM-20 Section 2.H.*
2. While it is common for companies to use a significant number of approximations, simplifications, and modeling efficiency techniques for their VM-21 valuation, VM-21 is missing an explicit allowance of approximations, simplifications, or modeling efficiency techniques. To understand the impact of the large number of approximations, simplifications, and modeling efficiency techniques, they should be covered in one location in the PBR reporting for VA, in contrast to the current reporting where they are scattered throughout the PBR Report. VM-20 Section 2.G does not allow simplifications to bias the reserve downward. This addresses the concern that a large number of immaterial simplifications could add up to a material understatement. VM-21 needs an assurance that simplifications do not compound one another to become material even more than VM-20, due to the very larger number of simplifications commonly used.

**VM-21 Section 1.E (new)**

**Materiality**

The company shall establish a standard containing the criteria for determining whether an assumption, risk factor or other element of the principle-based valuation has a material impact on the size of the reserve or TAR. This standard shall be applied when identifying material risks.

**VM-21 Section 3.H (new)**

H. A company may use simplifications, approximations and modeling efficiency techniques to calculate the stochastic reserve and/or the additional standard projection amount required by this section if the company can demonstrate that the use of such techniques does not understate TAR by a material amount, and the expected value of TAR calculated using simplifications, approximations and modeling efficiency techniques is not less than the expected value of TAR calculated that does not use them.

**Guidance Note:**

Examples of modeling efficiency techniques include, but are not limited to:

1. Choosing a reduced set of scenarios from a larger set consistent with prescribed models and parameters.

2. Generating a smaller liability or asset model to represent the full seriatim model using grouping compression techniques or other similar simplifications.

There are multiple ways of providing the demonstration required by Section 3.H. The complexity of the demonstration depends upon the simplifications, approximations or modeling efficiency techniques used. Examples include, but are not limited to:

1. Rounding at a transactional level in a direction that is clearly and consistently conservative or is clearly and consistently unbiased with an obviously immaterial impact on the result (e.g., rounding to the nearest dollar) would satisfy 3.H without needing a demonstration. However, rounding to too few significant digits relative to the quantity being rounded, even in an unbiased way, may be material and in that event, the company may need to provide a demonstration that the rounding would not produce a material understatement of TAR.
2. A brute force demonstration involves calculating the minimum reserve both with and without the simplification, approximation or modeling efficiency technique, and making a direct comparison between the resulting TAR. Regardless of the specific simplification, approximation or modeling efficiency technique used, brute force demonstrations always satisfy the requirements of Section 3.H.
3. Choosing a reduced set of scenarios from a larger set consistent with prescribed models and parameters and providing a detailed demonstration of why it did not understate TAR by a material amount and the expected value of TAR would not be less than the expected value of TAR that would otherwise be calculated. This demonstration may be a theoretical, statistical or mathematical argument establishing, to the satisfaction of the insurance commissioner, general bounds on the potential deviation in the TAR estimate rather than a brute force demonstration.
4. Justify the use of randomly sampling withdrawal ages for each contract instead of following the exact prescribed WDCM method by demonstrating that the random sampling method is materially equivalent to the exact prescribed approach, and the simplification does not materially reduce the Additional Standard Projection Amount and the final reported TAR. In particular, the company should demonstrate that the statistical variability of the results based on the random sampling approach is immaterial by testing different random sets, e.g., if randomly selecting a withdrawal age for each contract, the probability distribution of the withdrawal age should be stable and not vary significantly when using different random number sets.

**VM-31 Section 3.E.1**

VA Summary – The PBR Actuarial Report shall contain a VA Summary of the critical elements of all sub-reports of the VA Report as detailed in Section 3.F. In particular, this VA Summary shall include:

1. Materiality – The Standard established by the company pursuant to VM-21 Section 1.E.

**VM-31 Section 3.F.2.e**

e. Approximations, Simplifications, and Modeling Efficiency Techniques – A description of each approximation, simplification or modeling efficiency technique used in reserve or TAR calculations, and a statement that the required VM-21 Section 3.H demonstration is available upon request and shows that: 1) the use of each approximation, simplification, or modeling efficiency technique does not understate TAR by a material amount; and 2) the expected value of TAR is not less than the expected value of TAR calculated without using the approximation, simplification, or modeling efficiency technique.