NAIC NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

# 2021 Principle-Based Reserves (PBR) Review Report

From: Valuation Analysis (E) Working Group

To: Life Insurance Companies Subject to VM-20 and/or VM-21
Interested Regulators

RE: Findings from Review of 2021 VM-20 Reserves Supplements, Variable Annuities Supplements, and PBR Actuarial Reports

## I. Executive Summary

The Valuation Analysis (E) Working Group (VAWG) reviewed the 2021 VM-20 Reserves Supplement and Variable Annuities Supplement in the Annual Supplement Blanks and the 2021 PBR Actuarial Reports. The review of the PBR Actuarial Reports covered life insurance and variable annuities. This report provides a summary of the main findings, high-level feedback, and additional VM-31 reporting considerations.

As part of the review process, comment letters were sent or are in the process of being sent to individual companies' senior management and qualified actuaries responsible for the PBR Actuarial Report, for each individual company to use the specific feedback as a guide for improving future PBR valuations and PBR Actuarial Reports.

This report is intended to provide general feedback to assist companies with future PBR valuations and filings, and to aid state insurance regulators in their PBR reviews.

## II. Background

The Valuation Analysis (E) Working Group of the Financial Condition (E) Committee (VAWG) was formed to work with the NAIC Resources to support states in the review of PBR and uniformly address questions and issues arising from application of PBR. The term "NAIC Resources" refers to NAIC actuaries responsible for reviewing PBR Actuarial Reports and supporting states and the VAWG as requested.

This report provides a summary of the main findings from the VAWG's review of the 2021 VM-20 Reserves Supplement and Variable Annuities Supplement in the Annual Supplement Blanks, and the 2021 PBR Actuarial Reports. The review of the PBR Actuarial Reports covered life insurance and variable annuities. **The PBR Actuarial Reports are considered to be confidential information under Section 14A of the Standard Valuation Law (Model #820), and may only be disclosed by a commissioner pursuant to Section 14B of Model #820.**

**This report does not contain any company-specific or other company-identifiable information. The purpose of this report is to provide findings to aid state insurance regulators in their PBR reviews, and provide companies with feedback intended to assist with the preparation of future PBR Actuarial Reports, VM-20 Reserves Supplements, and Variable Annuities Supplements.**

## III. Limitations

The analysis presented relies on the information submitted by companies in their VM-20 Reserves Supplement, Variable Annuities Supplement, and PBR Actuarial Reports. Review of the PBR Actuarial Reports required actuarial judgment. Although the analysis is intended to be based on a clear read of the reports, there is some risk of misinterpretation. Many reports had sections that were not completely clear to the reviewers, and in some cases, relevant information could not be easily found. This report summarizes many, but not all observations and findings from the PBR Actuarial Reports.

## IV. Applicable Findings from Prior VAWG PBR Review Reports

There were many findings from the review of the 2021 VM-20 Reserves Supplements and PBR Actuarial Reports that were similar to those from prior years. Please find the reports for 2017, 2018, 2019, and 2020 on the VAWG webpage of the NAIC website to see additional details.

## V. VM-20 Common Issues and Opportunities for Improvement

Rather than providing a full list of the main findings regarding VM-20 issues, a short summary of comments for 2021 year-end reports is provided below. Note some of the issues in prior year VAWG PBR Review Reports still apply, but will not necessarily be repeated here to avoid redundancy.

1. COVID-19 Deaths – As reports are developed, we encourage companies to clarify the treatment of COVID-19 in the mortality study. Is it partially reflected, fully reflected, or not reflected? What is the methodology used to identify COVID-19 deaths and perform any adjustments? Any accompanying rationale should also be included. Note that front-end explanations will help avoid more questions during regulatory reviews on the back-end and strengthen the report.

2. Appropriateness of Top-Down Aggregation Approaches – Some mortality setting approaches are being called a top-down aggregation approach that don't follow basic actuarial credibility principles. If aggregate credibility is used, the company should be relying on aggregate experience when setting individual mortality segment rates to the extent mortality segment experience is not credible. If, in contrast, a company wants to rely on directly relevant data (mortality segment data) instead of the aggregate data, then the mortality segment credibility should be applied. As illustrated in the mortality aggregation examples on the NAIC PBR data page, satisfying conservation of deaths is necessary but not sufficient when performing mortality aggregation.

3. Non-Guaranteed Elements – Companies should include an appropriate margin on non-guaranteed elements to determine a prudent estimate under VM-20 guidance. In many cases, non-guaranteed elements may have flexibility from a contractual standpoint, but there are still constraints due to legal and reputational risks, in addition to limited history on the latest feature or contractual language. Therefore, companies are encouraged to determine a prudent estimate. In addition, companies should provide documentation of their determination policy under ASOP 2, clarifying the conditions that would trigger a change and a list of historical changes to the same non-guaranteed element (either on the same product or other similar products). This is especially encouraged for non-guaranteed elements on indexed universal life with index parameters, flexible-premium products with cost of insurance (COI) charges, and permanent life products with non-guaranteed fees.

4. Liability Lag Adjustments – Some companies report a lag in liabilities, such that not all inforce through December 31 in a given calendar year is valued in the PBR reserve for a December 31 valuation date. In these situations, if there is not a method to estimate liabilities from new policies sold during the lag period, it can result in a reserve that is understated. Therefore, companies should come up with an estimation approach, which may either involve projecting liabilities for newly written policies during the lag period or a pro-rated topside adjustment upon the valuation date to reflect new business. In addition, a demonstration should be shown to estimate the impact of such of an approximation and that reserves are not materially understated.

5. Ongoing Exemption – The ongoing exemption can only be used if the company has previously actively filed a statement of exemption that was not rejected and the company has since then continued to meet the exemption criteria. That is, either the company meets the individual company and group premium thresholds or all new business is due to conversions, enhancements, or similar features. In order to use the ongoing exemption, the company's exemption must also not include any universal life policies with material secondary guarantees.

6. Independent Reviews – Model validation through independent reviews should have accompanying documentation clarifying who performed the review, when the review was performed, the scope of the review, the process, findings, and company follow-ups/responses.

7. Formal Governance Framework – As discussed in prior year VAWG PBR Review reports, a formal model governance framework should be established. More specifically, documentation should include a written governance policy, identifying the role of a model steward(s), demonstrating the segregation of duties for the implementation vs. review, and documenting model changes, reviews, and approvals. A formal assumption governance framework should also be established.

8. Reminder of VM-20 Reserves Supplement Issues – Although highlighted in prior VAWG reports, there are still a number of issues being identified in VM-20 Reserves Supplement submissions. Companies should report reserves in dollars and face amount in 000's, use the correct columns (A vs. B. vs. C), and tie to Exhibit 5 of the Annual Statement. The Due and Deferred Premium Asset (DDPA) should also be appropriately reflected in Parts 1A and 1B of the VM-20 Supplement, according to the relationship: Reported Reserve = NPR + max{0, [max(DR, SR) – (NPR-DDPA)]}

9. Upcoming Future Mortality Improvement (FMI) and Historical Mortality Improvement (HMI) – Now that future mortality improvement (FMI) factors have been adopted, we request that companies provide additional commentary on the use of improvement assumptions:

   - For the industry table, is the latest HMI assumption being used for year-end 2022?
   - Is the company using FMI rates that both A) it anticipates and B) does not exceed the SOA published rates? Are both aspects documented and supported?
   - If the company is applying no FMI as a simplification, has the company documented that this does not bias reserves downward for this product?
   - Providing the impact for both company anticipated and SOA FMI rates (even if off-cycle) will help inform regulators, avoid follow-up questions, and strengthen the report.

   Note the above are not comments on 2021 year-end reports, but rather comments for upcoming 2022 year-end reports.

10. Reflecting YRT in SERT – For YRT that is not modeled, the appropriate reflection of the YRT credit in the SERT ratio is to subtract the YRT credit from the values in the numerator and denominator of the SERT ratio. YRT is not specifically modeled just for the SERT calculation.

## VI. VM-21 Common Issues and Opportunities for Improvement

The following issues and opportunities have been identified for VM-31 VA Reports upon the review of 2021 year-end submissions:

1. Margins/Assumption Summary – We recommend listing out all applicable assumptions and margins for policyholder behavior and mortality at the start of the associated sections of the VM-31 report. We are finding that many margins and assumptions are scattered throughout the different sections, rather than having one central summary of them, which leads to more follow-up questions from regulators. Note Life VM-31 requirements have a specific item related to documenting all assumptions and margins, but this does not exist for Variable Annuities, which has led to companies spreading out the disclosures of these items throughout their report, which results in a request that companies provide a summary upfront within each respective section.

2. Hedging Error on Index-Linked Variable Annuities – The VM-21 hedging error calculation applies to all future hedging strategies, including those that support index credits. In 2021 reports, some companies argued that a "no hedge" run on index-linked products is not necessarily reasonable or appropriate. However, in response, some companies have not modeled any error or margin altogether for index-linked variable annuities, which does not meet requirements. Therefore, if companies decide that an alternative method for minimum hedging error would be more appropriate on index-linked variable annuities, then such a method should be documented in the VM-31 report with a supporting demonstration/rationale that such method does not understate reserves as a simplification or approximation.

3. Hedge Error Support – Some submissions showed historical data for hedging program gains or losses, and then assume 5% hedging error (the lowest permitted) even though the historical data does not support or tie to the chosen error level. Valuations should reflect prudent estimates of hedge error, reflecting historical experience, which is aligned with the principles of PBR.

4. Non-Guaranteed Elements (NGEs) on Index Credits – If index-linked contracts credit interest based on index parameters that are not guaranteed (e.g., the cap or participation rate is above a lower guaranteed level), then reflecting prudent estimates on such non-guaranteed elements would align with the principles of PBR. Even if carriers do not have a history of changing NGEs, potential reputational or legal risk may still warrant a margin on NGEs that are more prudent than projecting that the investment spread is maintained across all scenarios.

5. Disclosing Credibility – To support the level of margin and prudent estimate used for policyholder behavior assumptions, documentation should include credibility metrics calculated for policyholder behavior experience data. Some submissions did not include this, or if they did, it was only for some of the assumptions and not for others. For surrenders, lapses, partial withdrawals, utilization, and annuitization, the level of historical data considered to determine future assumptions is an important item that could be included in the description of the experience study required in VM-31.

6. Simplifications, Corrections, and Approximations – There should be a list of corrections made over the past year that affect the VM-21 calculation, as well as the size and direction of such items. In addition, simplifications should be listed with demonstrations or descriptions of an estimated size and direction of an impact.

7. C-3 Phase II Capital Allocation Between Market and Interest Rate Risk – Multiple companies would allocate 100% of the C-3 Phase II capital to interest rate risk instead of market risk, even though there may be exposure to market risk through the impact to hedging prices, guarantees, and the collection of fees as a percent of fund value. We recommend that companies allocate some level of C-3 Phase II capital to both market risk and interest

rate risk if the associated liability block is applicable to both risks, instead of having zero for one and all C-3 Phase II capital assigned to the other.

8. Borrowing Cost Assumption – The borrowing cost assumption should be documented in the VM-31 report, including whether the borrowing assumption is used as a model proxy to sell assets and how it compares to the rate at which positive cash flows are reinvested.

9. Variable Annuities Supplement – Companies should note that prior to 2020, the Variable Annuities Supplement was completed only for variable annuities with guaranteed benefits. However, this changed starting in 2020. The instructions now state that companies should complete this supplement for contracts and certificates subject to VM-21 or AG 43. As described in VM-21 Section 2.1, this includes variable annuities without guaranteed benefits. The instructions also indicate that for a category of contracts with no guaranteed benefit, companies should include those contracts on the Variable Annuities Supplement and show “None” in Columns 1 and 2.