July 5, 2018

Mr. Mike Yanacheak
Chair, Variable Annuities Issues (E) Working Group
National Association of Insurance Commissioners
via Email: Dan Daveline (ddaveline@naic.org)

Re: Assumption Governance for Actuarial Guideline XLIII (AG43)[1]

Dear Mr. Yanacheak,

On behalf of the AG43/C3 Phase II Work Group of the American Academy of Actuaries,[2] I appreciate the opportunity to provide input to the Variable Annuities Issues (E) Working Group (VAIWG) on policyholder behavior assumptions in response to the discussion on this topic during the May 16 VAIWG meeting in Kansas City.

As noted in our March 2 letter, a regulatory review process in line with the infrastructure put into place for VM-20 is needed for AG43 and C3 Phase II (C3P2). One approach could be to use the VM-20 infrastructure, including the NAIC Valuation Analysis Working Group. However, more discussion is needed to ensure doing this will meet the needs for AG43 and C3P2. One part of such an infrastructure is assumption governance.

This letter outlines our initial thoughts on assumption governance. We note that because there are several different ways to structure such governance, development of a robust approach will need input from all practitioners, including company and regulatory actuaries. We see merit in an approach that has flexibility for both companies and reviewers, rather than overly prescriptive requirements. This approach could also be supported by the identification and encouragement of best practices, practice notes, suggested templates, and guidance within AG43 and C3P2.

To begin the discussion on this topic, we suggest the tools available to regulators for governance of AG43 assumptions include using the Standard Projection (SP) as a disclosure tool, uniform approaches to review the appropriateness of a company's policyholder behavior assumptions, and experience studies coordinated by the NAIC. Below is a brief discussion of these three items.

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[1] References to AG43 also applies to VM-21.

[2] The American Academy of Actuaries is a 19,000-member professional association whose mission is to serve the public and the U.S. actuarial profession. For more than 50 years, the Academy has assisted public policymakers on all levels by providing leadership, objective expertise, and actuarial advice on risk and financial security issues. The Academy also sets qualification, practice, and professionalism standards for actuaries in the United States.

Using the SP as a disclosure tool

Whether or not the SP is used as a reserve floor, the results can be used as a tool to facilitate the review of policyholder behavior assumptions. Comparing the results of the SP to the Conditional Tail Expectation (CTE) Amount can show how a given company's assumptions compare to the SP prescribed assumptions in aggregate. However, this is not a definitive implication of the appropriateness of policyholder behavior assumptions. Company assumptions could vary significantly, and any given company assumption could be more or less favorable than the assumptions prescribed in the SP.

Therefore, if the SP prevails, policyholder behavior assumptions could still be appropriately conservative. Similarly, if the CTE Amount prevails, assumptions could still be inappropriately aggressive.

While this comparison does not provide a definitive conclusion about the appropriateness of policyholder behavior assumptions, it is a starting point for more detailed discussions on assumptions between the regulator and the company actuary. This discussion could include a review and discussion of the results of the cumulative decrement analysis within the SP.

Approaches to compare assumptions to actual experience

While comparisons to the SP prescribed assumptions can be useful, we believe confirming that each policyholder behavior assumption is appropriate given the company's actual experience is a priority.

As noted in the introduction to this letter, there may be many different approaches that could be used to accomplish this. Ultimately, this will require input from different parties, including company and regulatory actuaries. However, to begin this discussion, we offer one such approach to confirm the appropriateness of these assumptions, recognizing that other approaches and/or other steps within a given approach may also be effective.

- *Identification of key risks.* Key risks for a given variable annuity product with guaranteed benefits would typically be intuitive to the company actuary and the regulator. However, it may make sense for the NAIC to develop a list of key risks that may apply to a given type of product.
- *Review of sensitivity tests*.[3] The results of the sensitivity tests for key assumptions will help determine which key risks should be more carefully reviewed. That is, a key risk should be more carefully reviewed when sensitivity tests reveal that results increase significantly when that risk is stressed. It is important that sensitivity tests appropriately stress one or more key risks.[4]

[3] Section A2.3)B) of AG43 states: "The memorandum shall also include sensitivity tests that the actuary feels appropriate, given the composition of the company's block of business (i.e., identifying the key assumptions that, if changed, produce the largest changes in the Aggregate Reserve)."

[4] Section A9.3) of AG43 states: "The impact of behavior can vary by product, time period, etc. Sensitivity testing of assumptions is required and shall be more complex than e.g., base lapse assumption minus 1% across all contracts. A more appropriate sensitivity test in this example might be to devise parameters in a dynamic lapse formula to reflect more out-of-the-money contracts lapsing and/or more holders of in-the-money contracts persisting and eventually utilizing the guarantee. The actuary should apply more caution in setting assumptions for behaviors …

- *Review the rationale for the assumptions used for the key risks*. This may include a review of the development of the assumptions in the supporting memorandum and a discussion with the company actuary. It may also be useful to compare the assumption to the SP-prescribed assumption and to any external experience studies (either NAIC or third-party studies), and to review the margins included in the assumption, along with the rationale for how the margin meets the requirements of AG43.
- *Compare the modeled policyholder behavior assumption to company experience* (including consideration of the impact of differences in policy characteristics such as in-the-moneyness as well as economic conditions between the experience period and the modeled period). As noted in our March 2 letter,[5] Appendix 9 includes such an approach, which can be expanded to all key risk assumptions. There may be other approaches that could be useful here, and either the VAIWG or the NAIC C3P2/AG43 Working Group could work with interested parties to identify alternatives.

We note that it is ultimately the company actuary's responsibility to justify the appropriateness of policyholder behavior assumptions and to help the regulator better understand the assumptions. The tools used to compare assumptions to actual experience should reflect this.

Experience Studies Coordinated by the NAIC

Consistent with the comments in our March 2 letter, we question whether the prescribed assumptions in the proposed SP are truly industry averages, given the number of companies that contributed to the policyholder behavior study, the absence of a variable annuity mortality study, and the approach used to develop the proposed assumptions.

A framework that allows for the reflection of additional experience as it becomes available is advisable, and with the VAIWG's desire to develop an experience study process, this framework would benefit from a continuous process that allows for the reflection of additional experience as it becomes available.

We reiterate the comments in our March 2 letter:

> "The proposed SP would benefit from a more robust, published industry-wide experience study. Data can be collected using the parameters of VM-50. This could be supplemented by experience studies that already exist. Not only would this benefit the use of the

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where testing suggests that stochastic modeling results are sensitive to small changes in such assumptions. For such sensitive behaviors, the actuary shall use higher margins when the underlying experience is less than fully relevant and credible."

[5] The letter states: "During the development of AG43, concerns were raised about the ability of regulators to review the appropriateness of assumptions. The Academy WG worked with LATF and other interested parties to implement an approach to develop requirements in Appendix 9 to capture 'actual to modeled' information on select assumptions. Appendix 9 was drafted to capture this for lapses as a 'first step.'" The intent at the time was to expand this to other assumptions over time. Unfortunately, it doesn't appear that this approach is being recommended in the proposal. The proposed disclosure #24 appears to attempt to capture something similar. However, it appears to be more of a comparison of industry average to modeled assumptions, rather than attempting to validate modeled assumptions to company experience. More consideration should be given to capturing how modeled assumptions compare to company experience, which we believe is a more useful metric for evaluating the reasonableness of assumptions than comparing assumptions to industry data."

proposed SP as a disclosure item, but it would also be useful in the development of company assumptions for the CTE Amount calculation (e.g., as part of the credibility weighting of assumptions). In addition, it will benefit the SP reserve if the VAIWG decides to use it as a floor.

Other possible sources of policyholder behavior data, including Society of Actuaries (SOA) studies and studies from other organizations, along with data from the quantitative impact study should be used to obtain a broader base of experience and industry expertise in analyzing the experience. Some of these other studies appear to be performed with more rigor than the results produced by the quantitative impact study.

If prescribed policyholder behavior is included in any manner, we will need to better understand whether any implicit and explicit conservatism is included in the proposed assumptions."

We suggest that the information gleaned from the second item above—e.g., which key risks are common—can be used to help determine the direction for data collection.

If you have any questions, please contact Ian Trepanier, life policy analyst at the American Academy of Actuaries, at trepanier@actuary.org.

Sincerely,

Thomas A. Campbell, MAAA, FSA, CERA
Chair, AG43/C3 Phase II Work Group
American Academy of Actuaries