



AMERICAN ACADEMY of ACTUARIES

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November 14, 2016

Commissioner Nick Gerhart  
Chair, Variable Annuities Issues (E) Working Group (VAIWG)  
National Association of Insurance Commissioners (NAIC)

Re: VAIWG Exposure of Proposed Changes to Actuarial Guideline 43 and C-3 Phase II

Dear Commissioner Gerhart:

The AG 43/C-3 Phase II Work Group of the American Academy of Actuaries<sup>1</sup> appreciates the opportunity to provide comments on the exposed proposal to revise Actuarial Guideline 43 (AG 43) and C-3 Phase II (C3P2). We view the proposal as encompassing the material presented at the Aug. 23, 2016, NAIC meeting in San Diego and the redline versions of AG 43 and C3P2 included in the Sept. 29 email from the VAIWG. We have organized our comments into three sections:

- The first section includes general comments on the proposal.
- The second section has more detailed comments on the proposal, listed in the same order as the five categories used to present the proposals at the Aug. 23 meeting.
- The third section includes comments on the redline versions of AG 43 and C3P2.

### **General Comments**

- Since changes are intended to apply to enforce business, the impact of revisions to AG 43 and C3P2 could be substantial. We agree with the statement made at the Aug. 23 meeting that the NAIC and interested parties need to properly deliberate and test these proposals. We recommend conducting an additional quantitative impact study of the entire proposal.
- We view tax reserves as being an important part of the issues associated with changes to AG 43. Therefore, because the NAIC should be concerned with tax implications, the impact of the proposal on tax reserves should be evaluated.
- Acceptance of any proposal should be based on whether the proposal will remove incentives for companies to use captives for their variable annuity (VA) business. It should be verified through testing that none of the proposals add conservatism beyond that required for statutory reserves, since such provisions will continue to provide these incentives.
- Given the number and depth of the proposed changes, we suggest that the individual proposals be prioritized to identify those that will have the biggest impact on addressing the

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<sup>1</sup> The American Academy of Actuaries is an 18,500+ 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.

concerns regarding captives. This will help address any concerns about the total work effort associated with reviewing and implementing the proposals.

- We recommend reviewing the consistency of AG 43 with the NAIC Model Standard Valuation Law (SVL). For example, such a review should confirm that applying the flexible valuation interest rates proposed for the Standard Scenario to inforce variable annuity contracts meets the provisions of the SVL, since Section 4b of the SVL still applies to those contracts.
- We note several additional areas in the proposal that require regulatory approval. We recommend that these items be reviewed to ensure that the increased burdens on regulatory resources are appropriate and acceptable.
- We remind the VAIWG that any changes made to AG 43 also will need to be made to VM-21. The VAIWG should consider adding language to AG 43 that references VM-21 so that future changes can be accommodated by amending VM-21 only. This will ensure consistency between the two requirements.
- Several of our comments reference [our letter to the VAIWG](#), dated Oct. 16, 2015.

### **Comments on the Proposals by VAIWG Category**

#### **1. Align economically focused hedge assets with liability valuations**

##### **A. Endorse hedge accounting for derivatives originated as part of a VA hedge program**

1. We recommend expanding the scope of this proposal from apply only to interest rate hedges to applying to all derivatives originated as part of a VA hedge program.
2. We are concerned that the proposed amortization period for unrealized gains/losses may be too short, since it is shorter than the typical liability duration for these products. The proposal in the *Special Accounting Treatment for Limited Derivatives* issue paper (NAIC SAPWG issue paper) allows a five-year amortization period, with the ability for the company to increase the amortization period up to 10 years with regulatory approval. We suggest allowing an amortization period beyond 10 years with regulatory approval (i.e., we recommend removing the 10-year limitation in the current proposal).
3. The proposal addresses volatility at the statutory surplus level. While this may result in more stability for surplus, statutory income may still be volatile because, under the proposal, unrealized gains and losses are recorded through surplus, but the change in reserves continue to be recorded through income. We recommend pursuing an approach where the company records a portion of the change in AG 43 reserves through surplus, so that it is matched with the unrealized gains and losses. This approach will reduce the incentive for companies to create captive reinsurers to manage statutory income volatility. We also recommend additional testing of this recommendation to ensure the impact on statutory and tax reporting is appropriate.

##### **B. Remove the Working Reserve when calculating scenario GPVAD**

1. We support this proposal, and suggested this as part of our recommendation to use a cash flow framework as the basis for reserve and risk-based capital (RBC) calculations in the [October 2015 letter](#).

C. Permit simplified reflection of hedging in liability projections

1. The [October 2015 letter](#) included a recommended approach to modify the treatment of hedging in AG 43 and C3P2, in order to address counterintuitive results. This approach includes eliminating the Clearly Defined Hedging Strategy (CDHS) as a condition to including hedges in the stochastic calculations. This would be replaced by requiring hedging strategies to be modeled, and supporting the modeling of hedging strategies with a combination of actuarial judgment, disclosure, margins, guidance, and company governance that provides checks and balances. We suggest considering this approach as an alternative to the current proposal.
2. If the current proposed approach continues to be pursued, we recommend that the proposal permitting companies to liquidate hedge assets in the adjusted run be modified to allow the option to replace currently held hedges with other assets the company holds to support its VA business (i.e., assets that are excluded from the current reserve calculation due to the inclusion of separate account assets and hedges). This modification can incorporate the current guidance in Section A1.4 of AG 43 (excluding hedge assets). This approach is more accurate than introducing cash into the projection and requiring the reinvestment of that cash when there are already invested assets available to support the VA business.
3. While we support the ideas expressed in the second and third proposals<sup>2</sup> under this category, we request more clarity. It is not clear whether realized gains and losses subject to hedge accounting treatment are permitted to be amortized as well within AG 43 and C3P2 under the proposal, which would be consistent with the proposed treatment within the NAIC SAPWG issue paper for interest rate derivatives.

D. Allow higher credit for liability projections with modeled CDHS, but require back-testing

1. While we would prefer removing the E factor approach, per our comments in 1C, this proposal will add flexibility to the current approach.
2. We support a requirement to perform back-testing, but note that the approach outlined in the proposed revisions to AG 43 may be difficult to follow in some situations. For example, the comparison of the back-test model to actual experience will reflect, among other items, the impact of actual versus expected mortality, lapses and other assumptions, as well as the impact of new sales and premium payments. This will affect the measurement of how well the model reflects the economics of the hedging program, especially with models that reflect extended periods. We suggest that regulators work with companies to determine the best course of action to initially take with back-testing until best practices for performing and evaluating the back-testing emerge.
3. We disagree with the requirement to obtain regulatory approval to change the E factor from one valuation date to the next. Given the work and the thought that goes into determining E, it is unnecessary to include an approval process. We suggest a requirement to disclose and support any changes to E.

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<sup>2</sup> “Permit companies carrying hedge instruments on a fair value basis not to reflect unrealized gains or losses on hedge instruments in stochastic projections.” and “Permit companies with hedge accounting treatment not to reflect the mechanics of hedge accounting such that realized gains or losses are recognized immediately.”

4. Under the proposal, it is not clear how the E is treated when CTE (best efforts) exceeds CTE (adjusted)<sup>3</sup>. Since there are different interpretations that are currently used, we suggest that this treatment be clarified.

## 2. Reform Standard Scenarios (AG 43 and C3 Phase II)

### General Comments

We recommend conducting more analysis as part of the evaluation of the entire proposal to 1) determine whether the proposal to reform the Standard Scenario (SS) will meet the intended goals; and 2) get a better understanding of the tax impact of this proposal.

We are concerned that the proposal to reform the Standard Scenario may result in a false sense of accuracy. That is, we are concerned that the proposal will add a great deal of complexity and the need for companies to devote more time and resources to the reserve calculation, without a corresponding improvement in accuracy (as noted in our comments below).

The original intent of the Standard Scenario was to provide a simplified (relative to the stochastic CTE Amount) calculation that applies the principles of AG 33 and 34, uses simplified assumptions, and helps ensure consistency with the SVL and the tax code. The resulting Standard Scenario Amount was meant to be close to the stochastic CTE Amount, but the intent was for the stochastic CTE Amount to be the reserve that prevailed in most situations.

The proposal to reform the Standard Scenario adds a great deal of detail and complexity to the Standard Scenario calculation. Although we support the use of industry experience in the Standard Scenario calculation, that level of experience may not appropriately reflect the experience of any given company. The combination of industry level experience with the more detailed and complex Standard Scenario calculation may make it more likely that the Standard Scenario will prevail for companies that have more favorable experience and that it will be understated for companies that have less favorable experience. We are, therefore, concerned that the proposal may result in a false sense of accuracy.

In addition, the proposal could have an unintended impact on the deductibility of tax reserves.

We recommend conducting more analysis to determine whether this proposal will meet the intended goals and to get a better understanding of the tax impact of this proposal.

More detailed comments on these issues are provided below.

### A. Align AG 43 Standard Scenario calculations more closely to the stochastic CTE framework

#### 1. Comments on the Standard Scenario calculation

- a. We request more information on the rationale for requiring the unwinding of the contract grouping, so that the proposed Standard Scenario is a seriatim calculation. We are concerned that this will require companies to develop and run a separate model, thereby conflicting with the rationale stated for this proposal to

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<sup>3</sup>The term CTE is an abbreviation for Conditional Tail Expectation, as defined in AG 43.

minimize implementation complexity. We also are concerned that the unwinding could result in an increase in run-time, and that this will need to be evaluated as part of the additional analysis of the proposal.

- b. We support aggregating the Standard Scenario Amount across contracts, but recommends excluding the aggregation limit (i.e., the Diversification Benefit Adjustment). The proposed 15 percent factor appears to be arbitrary and the proposed process to determine the aggregation limit will add complexity to the calculation, especially in conjunction with the requirement for the Starting Asset Amount to converge with the final reserve. If the 15 percent limit is intended to add conservatism, there are other places to add any needed conservatism.
  - c. We note that the determination of the Diversification Benefit Adjustment may result in early positive cash flows being removed from the calculation. Therefore, such positive cash flows will not be available to offset any future negative cash flows. This is a concept that was discussed during the development of AG 43 and other principle-based approaches and it was rejected as being inconsistent with reserving principles. If the intent is to re-introduce this concept, a review of these prior discussions is needed.
  - d. It was previously stated that the Diversification Benefit Adjustment is intended to prevent the potential risk of Standard Scenario lapse assumptions being too low for highly profitable policies. We suggest addressing this risk through margin in the Standard Scenario lapse assumption, rather than adding complexity to the calculation. As an alternative, the risk can be analyzed through sensitivity testing and by reviewing emerging experience.
  - e. We note that the cash flows used in the determination of the Diversification Benefit Adjustment exclude certain cash flows, such as net investment income and maintenance expenses. Preliminary testing shows that this could result in situations in which the diversification benefit to be removed exceeds the actual cash flow gains projected to occur from the contract in some periods. This should be evaluated as part of the additional analysis of the proposal.
  - f. We suggest adding language to AG 43 making it clear that the SS's alignment with the stochastic reserve approach in no way further limits the practices used in the stochastic reserve calculation.
2. Tax reserve issues
- a. We note that the U.S. Department of Treasury has included providing guidance on tax issues regarding life and annuity principle-based reserves in its 2016-17 Priority Guidance Plan. This could further the guidance of [Notice 2010-29](#), which was issued in 2010 to provide interim guidance on the calculation of tax reserves under AG 43. Therefore, the proposed changes to the Standard Scenario could impact not only tax reserves going forward, but also the guidance in Notice 2010-29.
  - b. Notice 2010-29 makes use of the Standard Scenario Amount under current AG 43 as a basis for the tax deductible reserve, and also makes it clear that the prior changes in the reserve calculation made by the original adoption of AG 43, while retroactive for statutory purposes, has only prospective effect for tax purposes. Therefore, it is reasonable to assume that the current AG 43 Standard Scenario and other prior requirements (e.g., AG 33, AG 34, and AG 39) will continue to

apply for tax purposes to enforce contracts even if changes are made to the statutory requirements for these enforce contracts.

- c. We suggest conducting additional analysis to better understand how the proposed changes may affect the level of tax reserves and the relationship between statutory and tax reserves for both new and enforce business. We understand there may be efforts in place to address how principle-based reserve approaches, which include the current AG 43, fit within the current tax code. We suggest the VAIWG work with interested parties to investigate the status of these efforts and determine how best to proceed. We and other Academy tax-focused work groups are available to work with and provide input to the VAIWG and other interested parties on these issues.
  - d. We recommend that the VAIWG work with us and other interested parties to incorporate whatever clarifications to the final language of AG 43 are advisable to mitigate potential tax uncertainties that could result from the changes.
3. Allocation issues
- a. We view the allocation approach in Appendix 6 of AG 43 as an important part of determining tax reserves and for other regulatory purposes. We do, however, recommend modifying the current proposal to allow the allocation approach to be more consistent with the definition of the Aggregate Reserve as defined in Section IV)A) of AG 43<sup>4</sup>. The reserve for any contract should at least be the cash surrender value. For amounts above that, we recommend a two-part allocation approach. First, the excess of the Standard Scenario Amount, if any, over the total of the cash surrender values should be allocated to the individual contracts. This can be done using the current proposal of “the negative of the lowest present value of the contract’s Accumulated Product Cash Flows” (after consideration of the comment below). Second, the excess of the CTE Amount, if any, over the Standard Scenario Amount should be allocated. This can be done using as a basis the allocated Standard Scenario Amount. If the Standard Scenario calculation is amended to allow contract groupings, additional steps will need to be added.
  - b. If any of the allocation approach proposals in Appendix 6 are preserved, we recommend adding more clarity to the approach. The approach bases the allocation, in part, on the “the negative of the lowest of the present values of the contract’s Accumulated Product Cash Flows, as defined in section A3.2)G).” For example, it is not clear whether this is limited to the cash flows in the scenario that was used to determine the Standard Scenario Amount, or if it is based on the lowest present value produced by all three of the proposed Standard Scenario paths. It is also not clear whether the present value needs to be adjusted for the Diversification Benefit Adjustment. We recommend that the allocation be based on the calculation that produces the actual Standard Scenario Amount.
  - c. We recommend testing the resulting allocation approach to ensure that the impact of reinsurance and hedging are appropriately reflected and that it produces results that meet the principles of statutory accounting.
4. Standard Scenario Enhanced Disclosures

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<sup>4</sup> Section IV)A) of AG 43 states, in part, “the Aggregate Reserve is calculated as the Standard Scenario Amount plus the excess, if any, of the Conditional Tail Expectation Amount over the Standard Scenario Amount.”

- a. We request more information to determine what is being sought through the enhanced disclosures. As noted below, the required tests could significantly increase the workload associated with AG 43 and potentially result in inaccuracies. We recommend more discussion between the VAIWG, interested parties, and companies to jointly determine the best approach to obtain the needed information in a more streamlined fashion.
- b. We are concerned that recalculating the Standard Scenario Amount under the stochastic CTE assumptions will require a significant amount of work. The CTE assumptions may not always follow the same structure as the Standard Scenario assumptions. For example, the Standard Scenario assumptions are based on a given definition of in-the-moneyness (ITM), based on this Guarantee Actuarial Present Value (GAPV) calculation. Companies currently may assume a different, but equally valid, definition of ITM. Depending on where the line between the Standard Scenario method and Standard Scenario assumptions is drawn, companies may be required to “re-establish” their assumptions, which will require experience studies to be repeated and adjusted to produce assumptions that follow the proposed Standard Scenario structure. Therefore, we do not view the required disclosure as a simple exercise.
- c. We also request more information regarding the intent of the “Cumulative Decrement Analysis with Prescribed Assumptions” along the three Standard Scenario market paths. Given that the assumptions are prescribed, it is not clear to us what benefit will result from providing this information. We also note that providing this information using CTE assumptions will result in the same issues as described above in recalculating the Standard Scenario Amount under the stochastic CTE assumptions.

B. Remove the C3 Phase II Standard Scenario

We support this proposal and suggested it in the [October 2015 letter](#). We think the proposal will reduce some of the workload. However, the suggestion in the proposal that AG 43 could act as a floor for the Total Asset Requirement (TAR) suggests an inappropriately high level of conservatism for reserves (i.e., beyond being adequate under moderately adverse conditions) and could result in the Standard Scenario prevailing over the stochastic reserve in the majority of situations. We do not support calibrating the AG 43 Standard Scenario to capital levels.

C. Specify a fuller set of risk factors informed by prevailing conditions and test multiple paths

1. Consistent with Principle 3 of AG 43,<sup>5</sup> we recommend revising the Standard Scenario return assumptions (both initial shocks and subsequent returns) to be consistent with

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<sup>5</sup> 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 actuary’s 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 Conditional Tail Expectation Amount 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 Conditional Tail Expectation Amount, the

returns that produce a Standard Scenario Amount consistent with CTE 70 stochastic calculations.

2. The 13.5 percent first-year drop assumption for equities (although bracketed) should be examined more carefully as part of the additional analysis of the proposal. Such a one-year drop falls below the 10<sup>th</sup> percentile of the current calibration criteria. If the goal is a CTE 70 standard, it may make sense to look closer to the 15<sup>th</sup> percentile, which would suggest a first-year drop that is lower than 10 percent.
3. We agree that using shocks that occur over a full year is more appropriate than applying an immediate drop.
4. We disagree with the use of the implied forward rates as the recovery rate for all asset classes. While this may be the expectation of future returns under a fair-value approach, there does not appear to be a strong historical relationship between forward rates and actual experience over extended periods. Based on preliminary analysis, we note that due to the level of returns proposed in Standard Scenario Path 1, the five and 10-year returns fall below the 10<sup>th</sup> percentile of the current calibration criteria and the 20-year return falls below the 5<sup>th</sup> percentile. We suggest that an approach that uses prudent, real-world recovery rates for the various fund categories would be more appropriate. For example, it makes sense to use return assumptions that correspond to the equity calibration criteria for equity funds.
5. We note that the long-term equity performance under this proposal will be lower than the long-term interest rate/bond and balance fund performance (i.e., the first year shock is larger for equities, but the subsequent returns are the same). This is inconsistent with historical experience.
6. We note that the proposed changes to the Standard Scenario return assumptions included in proposed AG 43 have inconsistencies with those presented in the Aug. 23 material. We recommend that these assumptions be reviewed. For example:
  - a. The Aug. 23 material indicates that equity returns in the first year under Path 3 should be 70.7 percent of the shock for Path 2, yet they appear to be 70.7 percent of the Path 1 shock in the AG 43 proposal; and
  - b. The “stressed swap curve” definition in proposed AG 43 is identical between Paths 2 and 3, while the Aug. 23 proposal indicated that the stressed amount in Path 3 would be 70.7 percent of the stress in Path 2.

D. Refresh prescribed contractholder<sup>6</sup> behavior assumptions to align with industry experience

1. Using industry experience for contractholder behavior will result in a false sense of accuracy. Although we support the use of industry experience in the Standard Scenario calculation, contractholder behavior varies dramatically from company to company. Using industry experience will not be accurate for any one company. We recommend conducting additional analysis of the Standard Scenario contractholder behavior proposal as part of the evaluation of the entire proposal in order to determine whether these proposed assumptions meet the intended goals.

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actuary should be guided by evolving practice and expanding knowledge base in the measurement and management of risk.

<sup>6</sup> We are using the term “contractholder” as equivalent to the term “policyholder.”



2. We understand there are different industry data studies that are often cited, which include results that are not easily comparable. The process used to determine industry experience should include a reconciliation of any conflicting information.
3. We request more details about how the three-year study will be performed and funded. The VAIWG should examine the costs (including the work effort) and benefits associated with maintaining these assumptions and refreshing them every three years.
4. We are concerned that the proposed changes to the Standard Scenario assumptions will add unnecessary complexity and run-time to the calculation. Some of the proposals may go beyond current capabilities and systems. We outline below examples of aspects of the proposal that could create issues, along with alternatives to consider that would serve to simplify the approach in those areas. We suggest these examples and any additional ideas provided by interested parties be considered and tested, as it is our understanding that material portions of these proposals were not included in the 2016 Quantitative Impact Study
  - a. We recommend replacing the GAPV approach for assumptions such as dynamic lapses and withdrawals with an approach that uses the benefit base for the following reasons:
    - The benefit base provides a more reasonable basis for determining contractholder behavior, as VA contractholders are more likely to refer to their statement value of guaranteed benefits when making a lapse decision than referring to an actuarial present value. At the least, past experience should be analyzed to confirm this.
    - Using the benefit base may be a more common practice, but this will need to be confirmed.
    - Using a GAPV approach may result in period-over-period changes in projected lapse rates simply from a change in interest rates. There does not appear to be any publicly available data indicating a connection between lapse behavior and interest rates for VAs. If there is an inherent sensitivity, it would likely only emerge after a dramatic movement in rates.
    - Performing industry studies based on GAPV may not be feasible, since companies may not have tracked experience on this basis. It makes more sense to use an ITM definition that is commonly used and for which historical experience data is available.
    - A new layer of complexity will result from the required use of GAPVs when determining the withdrawal commencement period within projected guaranteed minimum benefits (GMxBs) when determining dynamic lapses. The proposal calls for assuming that withdrawals begin at the maximum GAPV of all possible withdrawal commencement dates. Not only does this require an expanded set of GAPV calculations, it also will often result in withdrawal timing within the dynamic lapse formula that is different than the withdrawals projected in the cash flows as prescribed in the withdrawal section. For example, the maximum GAPV result may suggest that withdrawals begin 10 years from issue. However, the particular withdrawal cohort may require the projection to begin withdrawals in Year 5, resulting in a disconnect between lapse and withdrawal assumptions in projection Years 6

through 10. This disconnect is even more counter-intuitive when considering the observation that withdrawals appear to be largely driven by income needs rather than market factors.

- Replacing the GAPV approach with a benefit base will simplify the calculations. While some have raised concerns about benefits that do not have a benefit base (e.g., immediate annuities), alternative approaches could be used. Such approaches could be agreed to between the company and its domestic regulator, and the approach can be reviewed by the NAIC Valuation Analysis Working Group to ensure a uniform application.
- b. We are concerned that the withdrawal cohort approach will add unnecessary complexity and run-time to the Standard Scenario calculation. The discussion below provides our rationale for this concern and outlines ideas to address it.
- The proposal calls for a one-time construction of withdrawal utilization curves reflecting an increase in withdrawals as VA contractholders age. We interpret this as requiring the development of unique withdrawal curves for every combination of attributes, which could include: issue age, rider, qualified status, and gender. As a result, a company may need to construct and maintain thousands of withdrawal curves.
  - The proposal requires companies to divide each contract into a linear combination of smaller contracts, each commencing withdrawals at a different point in the future where the weights are configured based on these withdrawal curves. While this methodology is used by some companies in their stochastic frameworks, those that do not use this approach will incur a substantial work flow to implement this approach. No limits have been placed on the number of cohorts (except that they are to apply in two-year increments), such that some contracts issued at relatively young ages could each be assigned to 30+ cohorts. Since the proposed Standard Scenario requires the use of seriatim inforce rather than a grouping of contracts, these unlimited cohorts may result in companies running inforce files that are significantly greater than the stochastic CTE model.
  - We view withdrawals as being largely driven by retirement income needs (and therefore age) rather than market factors, so we support any reasonable simplifications to the proposal that are primarily based on age, and secondarily based on material deferral bonuses.
  - We suggest the following ideas be considered to reduce the total number of cohorts:
    - Widen the range of the age bands;
    - Place an absolute cap on the number of cohorts required by either limiting the number of years projected in the GAPV per the withdrawal commencement logic, or selecting the largest of a predetermined number of cohorts on a GAPV basis (or some related metric);
    - Allow the option to use an actuarially equivalent and unbiased method of assigning withdrawal commencement at the contract level in order to allow companies that do not use the cohort approach to utilize their existing infrastructure while still meeting the required overall utilization targets;

- Construct aggregate withdrawal curves on an attained age basis for each rider type; and
  - Replace the withdrawal curve concept entirely with a more explicitly assigned withdrawal pattern, such as one where withdrawal utilization is assumed to increase each year until the maximum utilization rates are achieved at the age where Requirement Minimum Distributions begin.
5. We support the proposal to cap guaranteed minimum withdrawal benefits (GMWB) withdrawals at a higher level for qualified contracts than for non-qualified contracts. However, we suggest a closer look at industry experience to see if lower targets for non-lifetime GMWBs make sense in recognition of the reduced incentive to take withdrawals for these benefits relative to lifetime GMWBs.

### 3. Align TAR and reserves

#### A. Require Starting Assets used in liability projections to remain close to the final reserve

1. Section A1.4)A) of AG 43 currently addresses the level of starting assets.<sup>7</sup> We view this as a reasonable approach. The proposal suggests that an iterative process may be necessary (acknowledging that approximations are permitted). We suggest that more analysis be conducted to determine whether the benefit of this proposal supports the additional work that would be required to implement it.
2. The proposal introduces a cash surrender value floor (CSV floor) for each Scenario Reserve. Under current AG 43, the stochastic reserve formula already has an implicit CSV floor. It is important to note that the CSV floor is only needed if the proposal under 1B to remove the Working Reserve is accepted. Therefore, if the proposal under 1B is accepted, we support adding a CSV floor (considering the comment below).
3. The proposal also applies to the CSV floor at the Scenario Reserve level. It may make sense to alternatively consider applying the CSV floor at the stochastic component level (e.g., after CTE 70 is determined). This should be part of any further testing.

#### B. Calculate C3 as the difference between reserves and a tail CTE on the same distribution

1. We are concerned that a CTE 98 measure goes too far into the tail of the distribution and could require more scenarios to be run in order to get a more accurate measure of the CTE 98 level. Analysis and review of literature on CTE variances indicate that a CTE 98 metric might easily require running three or four times as many scenarios as a CTE 90 metric in order to keep the standard error of the CTE estimate to a similar level. A change in the CTE level and the scalar may be needed to address this.
2. We would like to better understand how the CTE 98 measure was determined. We suggest that this level be tested to confirm that this is the appropriate level and that it can produce accurate results. It also should be tested to determine whether this measure works properly in different market conditions. It was stated in the Aug. 23 material that CTE 98 was chosen because it will help assure that hedging will

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<sup>7</sup> Section A1.4)A) states, in part, that the Starting Assets "...shall be set equal to the approximate value of statutory reserves at the start of the projection"; and "The actuary shall document which assets were used as of the start of the projection, the approach used to determine which assets were chosen and shall verify that the value of the assets equals the approximate value of statutory reserves at the start of the projection."

decrease the requirement. If this is why CTE 98 was proposed, we do not view this as an appropriate rationale for proposing CTE 98.

3. Using  $\frac{1}{4}$  of the difference between CTE 98 and reserves implies CTE 98 is equivalent to a 400 percent RBC. We are concerned that the proposal will result in RBC being used as a measure of capital strength, which is an inappropriate use of RBC. RBC was not calibrated for capital strength; rather, RBC was calibrated to identify weakly capitalized companies. More discussion and clarification of intent is needed. For example, if the intent is for the level of C3P2 RBC to remain at the current CTE 90 level, then analysis is needed to ensure the proposed formula produces RBC consistent with the current CTE 90 formula under various economic conditions. Alternatively, if the intent is to change the current CTE 90 level, we request more information on the rationale for the change and for the intended level.
4. We think that tax cash flows will have an impact on the cash flows, and that not taking into account taxes in the stochastic projection could impact asset values and therefore the results. While the requirements should allow for appropriate levels of approximations and estimations, we suggest that the requirements also encourage more complete and accurate modeling. This includes encouraging more accuracy in the modeling of tax cash flows. We support allowing the option for companies to include tax cash flows in both AG 43 and C3P2 stochastic calculations, along with the use of the appropriate RBC formula, but we suggest this be allowed without the requirement to obtain regulatory approval.
5. We note that using the same distribution of reserves for CTE 98 could reduce the amount of revenue sharing income that companies currently reflect when determining the Total Asset Requirement under C3P2. This is because currently, C3P2 does not have the same limits on revenue sharing income as AG 43 does (e.g., 25 bps after five years). This proposal would introduce the AG 43 limits into the C3P2 calculation. We recommend eliminating the revenue sharing limit in AG 43 (i.e., reverting to the C3P2 requirement) and addressing the treatment of revenue sharing through required disclosures.

#### **4. Revise asset admissibility for derivatives and Deferred Tax Assets (DTAs)**

##### **A. Increase admissibility limit for designated VA hedges**

1. We generally support this proposal, but request more information regarding what is meant by “designated VA hedge assets.” We would disagree with the direction if the intent is to limit increased admissibility only to interest rate hedges, consistent with the proposal in category 1A, because the proposal should allow increased admissibility for all VA hedges.

##### **B. Increase admissibility limit for DTAs associated with VA portfolios**

1. In the formula proposed under category 3B, it appears that RBC could be increased if the admissibility limit for DTAs is increased, and the amount of the increase could be different for companies that directly model tax cash flows versus a similar company that doesn't. We suggest that more analysis be conducted to better understand how RBC under this proposal will interact with the impact of RBC under the two expressions proposed in category 3B.

## 5. Standardize capital markets assumptions

### A. Harmonize interest rate and general account net investment income assumptions

1. We agree with the efforts to add guidance to the determination of interest rate scenarios and with the proposal to allow proprietary generators.
2. We question whether additional modifications to the VM-20 interest rate generator, including the proposal to produce negative interest rates, are needed. We recommend using the current VM-20 interest rate generator, with the option to use proprietary generators. The work that went into developing the guidance for interest rate scenarios in VM-20 is useful and has advanced the requirements. Making additional modifications will result in inconsistency between AG 43 and VM-20. If there is a desire to make further changes to the interest rate generator, this should be pursued as a separate project that can ultimately be applied to all principle-based approaches.
3. It does appear, however, that the proposed generator and the Appendix 12 assumptions in the redline version of proposed AG 43 are identical to the requirements of VM-20. We suggest that these provisions be removed from VM-20, AG 43, and VM-21, and be replaced with references to a new section of the Valuation Manual containing these requirements. This will ensure on-going consistency between the standards.
4. We suggest including interest rate calibration as an alternative to the proposed requirement to obtain regulatory approval to use proprietary generators by providing a demonstration that interest rates are appropriately conservative. The use of interest rate calibration criteria will reduce the amount of work necessary to review and approve proprietary generators. The Academy Economic Scenario Work Group has already developed [interest rate calibration criteria](#). This was used for the 2014 C-3 Phase 1 testing and should be considered for use in this proposal. Note that if this approach is considered, additional disclosures may be needed to ensure that proprietary generators are appropriate to support the higher CTE measure proposed in category 3.
5. We note that this proposal increases the level of the default cost assumptions. Currently, AG 43 requires expected default costs to be used, and this proposal would increase this to a CTE 70 level. We suggest that the current provisions for default costs, including those in reserves, RBC, and the Asset Valuation Reserve (AVR), be analyzed to ensure that the total provision appropriately reflects this risk.

### B. Evaluate alternative calibration criteria for equities and other market risk factors

1. We request more information on the following proposals in the Aug. 23 material:
  - a. The title of this proposal implies that calibration criteria may be considered for asset classes beyond US equities. If this is the intent, more information about this is needed and we would like the opportunity to provide additional comments.
  - b. The content and timing for performing the investigation proposed in the first recommendation and commissioning the work-stream proposed in the second recommendation.
  - c. The proposed use of the calibration criteria and quantitative guidance for credit and implied volatility. For example, is the need for information on implied volatility needed solely for the projection of hedge assets?

2. It is not clear whether the intent of this proposal is to better align reserves and hedge assets, or to improve the appropriateness of the calibration criteria on its own merits. If the intent is to better align reserves and hedge asset values, we disagree with that direction and suggest that the alignment of reserves and hedge assets can be accomplished using the other proposals (e.g., accounting changes).
3. We published a [2013 report](#) demonstrating that the current calibration would not be changed materially by including post-2003 experience. This analysis and the work that went into the developing the current calibration demonstrates that the current calibration criteria are set at an appropriate level. While we do not object to investigating ways to improve the development of calibration criteria, if changes are made, the updated level of the calibration criteria should be similar to the current levels.

### **Additional Comments on the Marked-Up Versions of AG 43 vs C3P2**

#### **A. C3P2 (LR027)**

1. Page 4, item A – The requirement to use the methodology in AG 43 does not take into account the option to use the Alternative Method. Note that page 6 still references the Alternative Method when determining the “f” factor for the tax adjustment. If the intent is to allow the continued use of the Alternative Method to determine the TAR, the current C3P2 Alternative Method will have to be added to the proposed instructions and possibly adjusted to a CTE 98 level. Since the Alternative Method is likely to only be used for blocks of VAs where the risks are minimal (it can’t be used if living benefits exist), we recommend adding the current C3P2 Alternative Method without any adjustments.
2. Page 4, item A, second paragraph – The determination of the discount rate is unclear. “For instance, in a projection year with negative taxable income, the actuary should discount the Accumulated Deficiency calculated at the end of that projection year by a pre-tax discount rate over the duration of the projection year, insofar as the net investment income implied by the pre-tax discount rate does not exceed the amount by which the original projected taxable income is negative.”

We recommend deleting this sentence and requiring the actuary to document the determination of the post-tax discount rates.

#### **B. AG 43**

1. Page C-162 – We recommend deleting the second to last paragraph (“The NAIC is currently using a similar approach to calculate risk-based capital...”) because of the proposed changes to C3P2.
2. Page C- 168 – We recommend deleting “in preceding years” in definitions 8-10, because experience in the current year is also relevant for many of these benefits.
3. Page C-183 (Relationship to RBC calculation) – We recommend deleting “with the approval of the Domiciliary Commissioner,” because the proposed RBC instructions allow the calculation of an after-tax CTE 98 at the option of the actuary (i.e., no approval is required).
4. We note that the proposal replaces the 1994 Minimum Guaranteed Death Benefit (MGDB) Table with the 2012 Individual Annuity Reserving (IAR) Table. We note that

the margin of these two tables go in different directions (i.e., under the 1994 MGDB Table, margins increase the mortality, but under the 2012 IAR Table, margins decrease the mortality). We also note that in the proposal, the 1994 MGDB Table continues to be referenced in Appendix 10 (guidance on setting mortality assumption) and Appendix 4 (Alternative Method). In order to reduce the number of tables used for AG 43, the VAIWG should consider using an alternative to the 1994 MGDB table, such as modifying the 2012 IAR for plus segments (as defined in Appendix 10). Consideration also should be given to updating the references to the Annuity 2000 table in Appendix 10.

5. We note that section A3.2)F)3)h) of Appendix 3 references projection scale G with respect to the 2012 IAR. Should this reference be to G2?

We encourage the VAIWG to consider our suggestions and to expose a revised proposal, along with a plan for additional testing and analysis prior to finalizing changes to AG 43 and C3P2.

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We look forward to working with the VAIWG in the design and testing of these changes to the requirements affecting variable annuities. If you have any questions or would like to discuss our comments further, please contact Amanda Darlington, the Academy's life policy analyst, at 202-223-8196 or [darlington@actuary.org](mailto:darlington@actuary.org).

Sincerely,

Thomas A. Campbell, MAAA, FSA, CERA  
Chairperson, AG 43/C-3 Phase II Work Group  
American Academy of Actuaries

cc: Dan Daveline