



AMERICAN ACADEMY *of* ACTUARIES

December 10, 2012

Albert V. Sekac
Chair – AG 43 / C-3 Phase II Subgroup
National Association of Insurance Commissioners (NAIC)

Re: C-3 Phase II and AG 43 Work Plan Draft

Dear Mr. Sekac,

The American Academy of Actuaries¹, Actuarial Guideline 43 / C-3 Phase II Work Group (“Academy WG”)² appreciates the opportunity to comment on the November 1, 2012 C-3 Phase II/AG 43 Work Plan Draft (“Work Plan Draft”) of the NAIC’s C-3 Phase II/AG 43 (E) Subgroup (“NAIC Subgroup”). The Academy WG was formed in May 2012 to provide actuarial information, analysis, and education on issues involving statutory reserve and risk-based capital requirements for variable annuity products.

The Academy WG believes the development of the Work Plan Draft and identifying areas for investigation is an appropriate first step; but, given the charge with which the NAIC Subgroup is tasked, the Work Plan Draft requires modification to reflect the need to perform in-depth analysis in support of the overall evaluation of C3P2 and AG 43 prior to implementing any changes. This will allow the NAIC Subgroup’s work to fulfill its charge and to establish the precedent that analysis plays a critical role in making decisions to modify principle-based standards on a going-forward basis.

¹ The American Academy of Actuaries is a 17,000-member professional association whose mission is to serve the public and the U.S. actuarial profession. The Academy assists 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.

² The Actuarial Guideline 43 / C-3 Phase II Work Group is a work group of the Academy’s Life Financial Soundness Risk Management Committee.

Comments

- **The Work Plan Draft should focus primarily on the plan to execute the NAIC Subgroup charge³**

The June 15, 2012 letter from the Academy WG to the NAIC Subgroup (“June Academy WG Letter”)⁴ expresses our concurrence that the NAIC Subgroup’s charge – to evaluate the overall effectiveness of the methodologies by conducting an in-depth analysis of the models and then to make any recommendations for changes to the methodology – is an appropriate way for the NAIC Subgroup to proceed. We believe the Work Plan Draft should prioritize the evaluation of the overall effectiveness of the methodologies and the performance of an in-depth analysis. Instead, the current draft focuses on perceived issues instead of an analysis of results and requirements in light of current perceptions. The purpose of the evaluation should be to determine what issues need to be addressed rather than expressing conclusions reached prior to analysis. The action items should only be referenced as a list of potential items that could be considered based on the evaluation of the methodologies, if they are referenced at all.

We also suggest that the NAIC Subgroup add its charge to the Work Plan Draft for reference purposes.

- **The Work Plan Draft should articulate the process by which the overall effectiveness of the methodologies is to be evaluated**

Consistent with the NAIC Subgroup’s charge, the Work Plan Draft should articulate the process by which the overall effectiveness of the methodologies is to be evaluated; it should not state preconceived end results.

Many of the action items are phrased in a way that already conclude changes should be made, rather than being oriented towards investigating the impact of the items on the effectiveness of the results. For example, the action item “change the AG 43 Standard Scenario to incorporate a 20% market drop” carries the implication that a conclusion regarding the overall effectiveness of the current Standard Scenario has already been made.

³ NAIC Subgroup charge:

Evaluate the overall effectiveness of the C3 Phase 2 and AG 43 methodologies by conducting an in-depth analysis of the models, modeling assumptions, processes, supporting documentation and results of a sample of companies writing variable annuities with guarantees and to make recommendations to the Capital Adequacy Task Force or Life Actuarial Task Force on any changes to the methodologies to improve their overall effectiveness.

⁴ The June Academy WG Letter can be found at:

<http://www.actuary.org/files/AG43-C3P2%20Comment%20Letter%206-15-12.pdf>

In addition, the action items appear to be limited to those that will increase the conservatism of results. The focus should be on improving the overall effectiveness of reserves and risk-based capital requirements based on an in-depth analysis rather than on simply increasing required conservatism. The Academy WG believes it is premature to decide whether changes are needed or whether any needed changes should result in additional conservatism or in reduced conservatism before the completion of an in-depth analysis and the evaluation of the overall effectiveness of the methodologies. It should also be a priority to consider reducing the prescription in the requirements in a way that allows the requirements to be more principle-based (while addressing actuarial practice involving the current requirements, as noted below).

- **The first step of the Work Plan Draft should be the determination and articulation of the basis for measuring and evaluating the overall effectiveness of the methodologies**

The June Academy WG Letter suggests that this be the first step. On the November 5 NAIC Subgroup conference call, a member of the NAIC Subgroup stated that the proposals reflected the fact that AG 43 reserves are not at the level where his state department of insurance wanted them to be. It should be a priority of the NAIC Subgroup to determine and communicate the level at which it believes AG 43 reserves should be set as this is not currently established in the requirements or other regulatory guidance. In the June Academy WG Letter, we commented that this level should be consistent with the statutory definition of reserves⁵.

- **The Work Plan Draft should include a review of actuarial practice as it relates to the requirements**

The focus in the Work Plan Draft on changes to the requirements could be better addressed by reviewing the range of actuarial practice on certain issues and providing guidance on best practices involving those issue (i.e., some of the concerns raised could be practice related rather than requirement related). The October 15, 2012 letter from the Academy WG to the NAIC Subgroup (October Academy WG Letter)⁶ provides a sample list of actuarial practice issues that may be part of a review. This should be a major component of the review of any principle-based approach and should be included in the Work Plan Draft.

⁵ The June Academy WG Letter states “Statutory reserves are determined using principles of conservative valuation and are intended as a mechanism to set aside funds that, together with future revenues and expenses, will allow the insurer to provide the benefits promised to policyholders. For example, companies are currently required to obtain an actuarial opinion stating that aggregate company reserves are adequate under moderately adverse conditions, when considered in light of the supporting assets.”

⁶ The October Academy WG Letter can be found at:
http://www.actuary.org/files/Ideas_for_AG43_and_C3_Phase_II_10-12-12.pdf

- **The Work Plan Draft should consider prior work**

The June Academy WG Letter suggests that the NAIC Subgroup consider prior work. The Work Plan Draft does not reflect this. For example, the Oliver Wyman June 2010 Report⁷ indicated that the majority of participating companies reported 2009 Standard Scenario reserves exceeding CTE 70 amounts (stochastic reserves), with six of those companies exceeding CTE 90. While the Academy WG has not confirmed these findings, we believe that this is an issue requiring additional analysis, especially in light of the charge to evaluate overall effectiveness. The Work Plan Draft does not include an investigation into this; in fact, the short-term action items could serve to increase the reported gap between the Standard Scenario and the stochastic reserve⁸.

- **The Work Plan Draft should better address the issue of resources**

The June Academy WG Letter suggests that the NAIC Subgroup consider examining the resource needs for addressing its charge and encourages the NAIC Subgroup to address any resource shortfalls or to adjust the plan before proceeding with the work. Unfortunately, the Work Plan Draft only has a cursory mention of this issue.

- **Comments on specific Short Term Action Items (notwithstanding comments above)**

Calibration criteria – One of the reasons provided in the Work Plan Draft for the proposal to increase the calibration criteria is to address the perception that markets are more volatile than reflected in the current calibration criteria. In an effort to substitute demonstrations for impressions, we believe analysis should be performed to see to what extent the current calibration criteria⁹ already reflect return and volatility events that are consistent with those observed since 2003.

The Work Plan Draft also implies that the NAIC should make changes consistent with those made in Canada. We believe that further analysis is needed to determine if such a change is needed in the US: Are standards comparable between the two countries? What caused Canada to effect the change they made and what data was used to develop the change? We do not believe a change should be made simply because another country made a change.

⁷ www.oliverwyman.com/media/OW_FS_EN_2010_PUBL_VA_Accounting_Results.pdf

⁸ Our understanding is, it was never LATF's intent that the Standard Scenario reserve would exceed the stochastic reserve the majority of the time.

⁹ The current calibration criteria were developed using a Stochastic Lognormal Volatility model that was fitted to historical experience. The returns and volatilities generated by that model was not limited to historical results, and may have included results that are comparable to those experienced in 2008 and 2009. This needs to be verified, and the Academy WG has begun to look into this.

Rather, any proposal for change should be based on the evaluation of the overall effectiveness of the methodology based on in-depth analysis.

Standard Scenario items – it is not clear why these short-term action items need to be immediately addressed. For example, the three short-term action items that impact the Standard Scenario reserve – the definition of “in-the-money,” the use of issue year interest rates and the scenario lapse assumptions – may not even be the most inefficient elements of the Standard Scenario reserve. During the development of AG 43, the Academy’s Variable Annuity Reserve Work Group pointed out inefficiency in the Standard Scenario¹⁰ which is likely significantly greater than the items identified as short-term action items. It is not clear why the three items currently in the list were included, while a more significant inefficiency did not.

The Academy WG believes that an evaluation of the overall effectiveness of the Standard Scenario is needed before these three short-term action items or any other change is considered.

20% immediate drop – the Work Plan Draft does not discuss why a 20% immediate drop represents a reasonably conservative assumption. Historical results do not support such a large drop – there has only been one calendar month in the past 60 years that has had a drop in the S&P total return in excess of 20% (October 1987). Even considering the Canadian Office of the Superintendent of Financial Institutions (OSFI) calibration criteria for required capital calculations applying to business written on or after 1/1/2011, a 20% drop is considered to be more than a 95th percentile event over a six-month period and more than a 90th percentile even over a one-year period. Statutory reserves should not be expected to cover benefits at such a conservative level.

As noted above, the Work Plan Draft should focus on the process by which the overall effectiveness of the methodologies is to be evaluated in order to develop demonstrations rather than to state impressions.

- **Key Issues that should be part of the overall evaluation**

The Academy WG suggests that the following issues should have the greatest priority in the evaluation of the overall effectiveness of the methodologies:

Treatment of hedging – The Academy WG believes that this could be the issue having the greatest impact on the overall effectiveness of the methodologies. We believe this issue should be evaluated both for its impact on results and to determine how acceptable is the

¹⁰ For a given contract, the Standard Scenario reserve is the sum of two independently calculated components: the Basic Adjusted Reserve and the Accumulated Net Revenue. The manner in which these components are combined results in a reserve that may assume a contractholder surrenders the contract on the valuation date (or early in the projection period), but still continues to receive guaranteed living and/or death benefits after that assumed surrender.

range of practice involving this issue. The NAIC Subgroup should begin by reviewing the Oliver Wyman June 2010 Report, which describes an “unintuitive impact of hedging”.

Actuarial Practice issues – As noted earlier, the review of actuarial practice should be a critical element within the Work Plan Draft.

Investigating the need to update the calibration criteria – The evaluation and any updates should be considered in a way that is consistent with the principles of statutory reserves, rather than just copying completely what Canada did and using a “volatility is higher” rationale.

Standard Scenario vs. the stochastic reserve – There have been many views expressed about the relationship between these two reserve components over the past few years, but only one such view is apparent in the Work Plan Draft. Analysis is needed to substitute demonstrations for impressions and to determine the appropriate relationship. The NAIC Subgroup should begin by reviewing the Oliver Wyman June 2010 Report, which reports the relationship between these two components for 2009 results.

Evaluation of the impact of interest rate risk – While we do not understand the comment that interest rate risk isn’t included in AG 43, given the current interest rate environment, we recognize the need to review current actuarial practice and reevaluate the impact of interest rate risk. If based on this review, it is found necessary; more guidance can be provided to improve the current interest rate projection requirements in AG 43.

Disclosure and documentation – We agree with the NAIC Subgroup that this is a key issue in the overall evaluation of AG 43 and C-3 Phase II.

- **The Work Plan Draft should be considered a PBA Review and Updating Process**

The July 16, 2012 letter from the Academy Life Practice Council to the Life Actuarial Task Force and the Life Insurance (A) Committee regarding a review and updating process for principle-based approaches¹¹ (“July LPC Letter”) states that it would not be prudent or responsible to adopt a principle-based reserve (“PBR”) methodology without also creating and maintaining a process to ensure its continued review, assessment, and improvement. It is critical that the NAIC establish such a process for all PBR and principle-based RBC methodologies. This includes AG 43 and C-3 Phase II.

A review and updating process is further discussed in the November 19, 2012 document¹² exposed by the Principles-Based Reserving (E) Working Group which provides “a draft plan

¹¹ The July LPC Letter can be found at:

<http://www.actuary.org/files/VM%20Comment%20Letter%207-16-12.pdf>

¹² http://www.naic.org/documents/committees_e_isftf_pbr_wg_2012_fall_nm_materials.pdf?1354217558998

to provide information on policy decisions which are priorities for successful PBR implementation”. We can envision the work plan that the NAIC Subgroup ultimately adopts being the work plan referenced in the November 19 document.

The Work Plan Draft should be approached as a pilot for such a review and updating process. As stated in the June Academy WG Letter: “Properly addressing these elements could be precedent setting, since this project can very likely provide a proper regulatory structure for similar processes that we believe are necessary to optimize the effectiveness of other principle-based reserve and risk-based capital calculation methodologies, such as Life PBR in proposed VM-20”. Attached to this letter is a Work Plan Draft developed by the Academy WG based on our comments which we recommend to the NAIC Subgroup to consider in its deliberations.

The Academy WG is available to assist the NAIC Subgroup in its efforts to finalize the Work Plan Draft. While we believe it is important to evaluate the effectiveness of AG 43 and C-3 Phase II, we believe it is also important to ensure the long-term success of these requirements and other principle-based reserve and RBC requirements under consideration by developing a strong framework that will allow for measuring the effectiveness and continually evaluating all principle-based requirements.

Please feel free to contact John Meetz, the Academy’s life policy analyst (meetz@actuary.org; 202/223-8196) if you have any questions about this letter or our suggested work plan

ATTACHMENT

C3P2/AG43 Work Plan Draft

This attachment outlines the Academy Work Group's recommendation for the Work Plan Draft, based on the comments in the letter. We are not including a recommendation for the Time Frame section of the current Work Plan Draft at this time. We are also recommending removing the Short Term Action Items as a separate work flow; we recommend incorporating those items into other area of the plan.

We recommend that the Work Plan Draft should follow the framework we suggested in the June Academy WG Letter, with the following four steps:

- Step 1: The basis for measuring and evaluating the overall effectiveness of the methodologies is developed, documented and reviewed.
- Step 2: AG 43 and C-3 Phase II (C3P2) are assessed against the basis for measuring and evaluating the overall effectiveness of the methodologies. Proposals for changes to the requirements are developed, reviewed and proposed. Proposals may include the manner in which the changes are to be applied (e.g., changes to AG 43 vs. VM 21, new business only vs. inforce, etc.).
- Step 3: The impact that any changes in requirements will have on results are analyzed, including an estimate of how the basis for measuring and evaluating the overall effectiveness of the methodologies is affected by the changes.
- Step 4: Changes to the requirements are adopted and implemented.

We recommend the following Work Plan:

NAIC Subgroup charge:

Evaluate the overall effectiveness of the C3 Phase 2 and AG 43 methodologies by conducting an in-depth analysis of the models, modeling assumptions, processes, supporting documentation and results of a sample of companies writing variable annuities with guarantees and to make recommendations to the Capital Adequacy Task Force or Life Actuarial Task Force on any changes to the methodologies to improve their overall effectiveness.

I. Basis for Measuring and Evaluating the Overall Effectiveness of the Methodologies

A. Determine how to evaluate C3P2 and AG 43 in the context of the basic tenets associated with risk-based capital and statutory reserves, respectively. That is:

1. The intent of risk-based capital is to identify weakly capitalized companies.
2. Statutory reserves are determined using principles of conservative valuation and are intended as a mechanism to set aside funds that, together with future revenues and expenses, will allow the insurer to provide the benefits promised to policyholders. For example, companies are currently required to obtain an actuarial opinion stating that

ATTACHMENT

aggregate company reserves are adequate under moderately adverse conditions, when considered in light of the supporting assets.

- B. Determine the level at which the Standard Scenario reserve is expected to be set and expectations for how the Standard Scenario reserve is expected to compare to the Conditional Tail Expectation Amount.

II. Assessment and Proposals for Changes

- A. Using the standards determined above, review results and documentation for 2009, 2010, and 2011. Has C3P2 produced reasonable and logical capital requirements? Has AG43 produced appropriate reserves? If additional asset adequacy reserves have been established, what is the rationale for why they were established and for the amount established? Has AG 43 and C3P2 resulted in appropriate levels during the recent recession?
- B. Measure the effect of prescribed assumptions (including caps and floors) and aggregate margins. A marginal analysis (changing identified variables one at a time) should suffice. Consider the development of an aggregate margin if this is adopted for VM-20.
- C. Key Issues to be considered
 1. The Oliver Wyman studies identified counterintuitive hedging results, relating to intrinsic differences between modeling based on economic assumptions and real world assumptions. Recommend how to best resolve this issue.
 2. Review actuarial practice by determining the range of practice on selected issues and providing guidance on best practices involving those issues. Begin with the October 15, 2012 letter from the Academy Work Group to the NAIC Subgroup, which provides a sample list of actuarial practice issues that could be part of a review.
 3. Investigate the need to update the calibration criteria in a manner consistent with the principles of statutory reserves.
 4. Analyze the relationship between the Standard Scenario and the stochastic reserve components. Begin by reviewing the Oliver Wyman June 2010 Report, which reports the relationship between these two components for 2009 results.
 5. Review current actuarial practice and reevaluate the impact of interest rate risk and, if found necessary based on this review, provide more guidance to improve the current interest rate projection requirements in AG 43.

ATTACHMENT

6. Review current actuarial practice involving other key issues and provide guidance on best practices involving those issues, where necessary.
 7. Disclosure and Documentation
 - a) Consider expanding the required disclosures to include more information about how the experience assumptions in the calculation of the CTE Amount were validated to actual experience data to include an assessment of their credibility.
 - b) Require in the AG43 Actuarial Memorandum, documentation consistent with VM-31 that is applicable to Variable Annuity principle-based reserving.
 - c) Risk and Risk Mitigation disclosures should be essentially similar to those contained in a Company's ORSA documentation. For example, risk mitigation techniques as hedging or reinsurance that are employed in the Variable Annuity line should address counterparty risk. Any credit for risk mitigation should be consistent with VM-20 Reinsurance Subgroup recommendations.
 - d) Consider mandatory reporting of variable annuity experience data, including that for the important types of dynamic policyholder behavior.
 8. Align common requirements included in C3P2 and AG43 to the extent such efforts as were employed at the time of their creation need improvement. The review may include the In-the-Money (ITM) evaluation, Discount Rate definition, Drop and Recovery Assumptions, Revenue Margins, Mortality, Lapses and GMIB election rates. If alignment is not possible, state the reason(s) for the necessary differences.
- D. Review and address the need for resources to carry out this Work Plan. Since this project will draw upon significant resources, the resource needs for addressing the charge needs to be examined. Address any resource shortfalls or adjust the scope of the plan before proceeding with the work.
- E. Potential items that could be part of the assessment
1. Conditional Tail Expectation Amount (Reserves and Total Asset Requirement)
 - a) Evaluate whether including recent (post-2003) experience in setting the AG43 calibration criteria will produce material differences in the calibration criteria. In addition, obtain information about the changes recently made by the Canadian regulator, OSFI to understand why the changes were made and whether the same reasons apply to the US.

ATTACHMENT

- b) Review actuarial practice by determining the range of actuarial practice on selected issues using the sample list of actuarial practice issues in the October 15, 2012 letter from the Academy Work Group to the NAIC Subgroup as a starting point. Develop guidance on best practices involving those issues.

2. Standard Scenario - AG 43 and C3P2

- a) Standard Scenario: To ensure that logical relationships exist between the C3P2 Standard Scenario and that for AG 43, they should be studied at the same time, with consideration given to any potential changes in such a manner as to have them take place at the same time. Start with the Oliver Wyman June 2010 Report and determine what additional information is required.
 - (i) Evaluate whether the C3P2 Standard Scenario should be modified in light of changes in the interest rate environment.
 - (ii) Consider whether to remove or revisit the C3P2 Standard Scenario. Discuss the desirability of its replacement with all relevant parties. Employ the analysis already performed for the Oliver Wyman study as appropriate.
 - (iii) Perform an analysis to assess and evaluate the role of the AG43 Standard Scenario. Is the equity drop assumption appropriate in light of historical experience and the level at which the Standard Scenario is expected to be set? Is the Standard Scenario appropriately impacted by the interest rate environment? Are there appropriate recommendations that could be made for changes to its current structure?

III. Estimate the impact any changes in requirements will have on results, including an estimate of how the basis for measuring and evaluating the overall effectiveness of the methodologies is affected by the changes.

IV. Changes to the requirements are adopted and implemented

A. Provide recommendations to CATF and/or LATF.

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