AMERICAN ACADEMY *of* ACTUARIES

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Mark Birdsall
Chair, Life Risk-Based Capital (E) Working Group
National Association of Insurance Commissioners (NAIC)

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Chair, Contingent Deferred Annuities (A) Subgroup
National Association of Insurance Commissioners

Dear Mark and Tomasz,

The American Academy of Actuaries[1] Contingent Annuity Issues Work Group (CAIWG) has prepared the attached responses to questions posed by Mark Birdsall on January 17, 2014, in his capacity as a member of both the NAIC's Life Risk-Based Capital (E) Working Group (LRBC WG) and the Contingent Deferred Annuities (A) Subgroup (CDA Subgroup) of the Life Actuarial Task Force (LATF), as well as a member of the Kansas Insurance Department.

We hope this document is helpful, but we also see it as the starting point for further dialogue with both the LRBC WG and LATF's CDA Subgroup. We would be happy to discuss this document with the appropriate NAIC groups. Please contact John Meetz, Life Analyst at the American Academy of Actuaries to arrange for a time (meetz@actuary.org) (202-223-8196) or with any questions you might have.

Sincerely,

Andy Ferris, Chair
Contingent Annuity Issues Work Group
American Academy of Actuaries

[1] The American Academy of Actuaries is an 18,000-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.

Academy Contingent Annuity Issues Work Group (CAIWG)
Responses to Questions on Contingent Deferred Annuities
March 20, 2014

1. **AG 43 does a good job of laying the groundwork for modeling market risk. Other key risks are identified in the AAA report, such as mortality (including mortality improvement), lapse and dynamic lapse, withdrawal benefit utilization, asset allocation decisions, ongoing contributions and annuitization.**

   a. **Do prudent estimate assumptions adequately reflect the risks of these additional risk drivers?**

   Response: In the context of a principle-based reserving system, prudent estimate assumptions reflect the risks of these additional drivers. Generally, assumptions are required by AG 43 to be at the "conservative end of the spectrum" and margins are required to recognize the degree of uncertainty in the data. Additionally, support for that position can be found in the following quote from section A9.6) of AG 43, which indicates that prudent estimate assumptions can be made for any behavior for products:

   "All behaviors (i.e., dynamic, formulaic and non-scenario tested) should be consistent with the scenarios used in the CTE calculations (generally, the approximately top 1/3 of the loss distribution). To maintain such consistency, it is not necessary to iterate (i.e., successive runs of the model) in order to determine exactly which scenario results are included in the CTE measure. Rather, in light of the products being valued, the actuary should be mindful of the general characteristics of those scenarios likely to represent the tail of the loss distribution and consequently use Prudent Estimate assumptions for behavior that are reasonable and appropriate in such scenarios."

   b. **Could stress testing or other methods be used to supplement the current AG 43 requirements?**

   Response: If, by "stress testing" it is meant "sensitivity testing," this is already a requirement of AG 43. If instead the meaning relates to a type of testing that goes beyond what is currently in AG 43, we believe any additional reserve requirements beyond AG 43 should consider both Variable Annuities (VAs) and Contingent Deferred Annuities (CDAs), and such requirements should be risk specific rather than product specific.

   c. **VM-22 work by ARWG on GLIB utilization has gone beyond the level of AG 43 specifications. Would it be desirable to incorporate this methodology in AG 43?**

   Response: We support the continued testing of the GLIB[2] utilization concepts under consideration by the ARWG for VM-22. But it is premature at this time to give an

[2] Within the context of the response to these questions, we will refer to GLIBs (Guaranteed Lifetime Income Benefits, more commonly associated with fixed annuity reserving) and GLWBs (Guaranteed Living Withdrawal Benefits, more commonly associated with variable annuity reserving) interchangeably.

opinion on the desirability of incorporating these concepts into AG 43. It is important to keep in mind that the VM-22 work being done by the ARWG is part of a long-term effort. We therefore support a parallel track that utilizes the current requirements and methodology in place today (i.e., AG 43 for CDAs and variable annuities), while work proceeds to update the requirements and methodology for the future (i.e., AG 43, VM-22, and VM-20).

2. **a. What are the company options with respect to expanding or narrowing the covered funds?**

Response: The CDA contracts or certificates (as well as the prospectuses) of which members are aware disclose the investments that are covered by the CDA, as well as the fact that the covered investments could change in the future. In addition, the CDA contracts or certificates (and prospectuses) of which members are aware call for any future changes to be communicated to the investor in advance of such change and that the investor be given the option of transferring assets to another covered investment or continuing the investment without the guarantee. Most of the CDA contracts or certificates (and prospectuses) of which members are aware require at least one covered investment option be made available to the contract or certificate owner. We believe this practice is similar to that for variable annuities.

b. What rights do the contractholders have with respect to this issue? Have these rights been tested in court?

Response: Our observation of practice is that if an insurance company effects changes to the covered investments, as described above, the contractholder or certificate holder would typically be given notice prior to any change and given the option of transferring assets to another covered investment or continuing the investment without the guarantee.

As this is not an actuarial issue, we have no comment on the issue of contractual rights.

3. **On pages 5-6 of the AAA report, reference is made to a process whereby limited experience requires the use of data that need to be adjusted for product design, distribution channel, target market, data quality, and other issues with higher margins included to reflect the uncertainty associated with basing assumptions on indirect data rather than data related to the actual experience of this business.**

a. Could you give us examples of how you would go through this process?

Response: This process would be similar to the process that a company might go through if it were going through a change in the design of its variable annuity product containing a GLWB. For a GLWB, the actuary may need to review, say, lapse and/or utilization assumptions for a comparable GLWB and the extent to which the associated policyholder behavior under the new product design may be different. For a CDA, the actuary may also elect to use a comparable GLWB as a starting point for establishing CDA lapse and utilization assumptions (assuming the company doesn't already write a comparable CDA). If the actuary believes that the incentive to lapse for the CDA includes more unknowns than the lapse assumption for a newly updated GLWB, then the margin embedded in the prudent estimate assumption should reflect those additional unknowns. Utilization and other assumptions would be adapted in a similar fashion.

When GLWBs were first introduced, development of assumptions were more difficult since insurers had no similar product to serve as a model. Today, companies that are either modifying current GLWB designs and/or developing CDA products have a better starting point. Even if an insurer had no prior GLWB or CDA experience, consulting firms have developed benchmarking data and the product knowledge that is needed to develop and establish reserves for CDA products.

b. Would you support the initiation of experience studies to collect experience for this business as it emerges, as well as experience for similar benefits on VAs and GLIBs on non-variable deferred annuities?

Response: The Contingent Annuity Issues Work Group would support the initiation of experience studies to collect experience for this business as it emerges, as well as experience for similar benefits on VAs and GLIBs on non-variable deferred annuities. We note, however, that independent organizations (e.g. LIMRA) already perform certain experience surveys, and these can add to the information base available as other studies are considered. It is important to keep in mind that analysis and use of any data should be done with careful consideration of the variations among product designs in the marketplace and the differences in experience that such product designs create.

4. In the AAA report, there appear to be a couple of places where it seems that AG 43 language could be clarified. For example, at the bottom of page 7, a reference is made to Separate Accounts and on page 12, there is reference to an interpretation of how the Standard Scenario would apply to CDAs.

Response: We would support in principle adding any needed clarifications to AG 43 in these areas. However, we believe that any changes to current AG 43 would be best considered by the NAIC C-3 Phase II/AG 43 (E/A) Subgroup that is considering other changes to AG 43/C3P2. For consistency sake, the total impact of AG 43 changes should be considered by one group.

5. On pages 8-9, the AAA report discussed operational risk and how it is not a risk to be covered by reserves. How would this risk be reflected in RBC?

Response: Our report covered AG 43 specifically and stated that our comments on C-3 Phase II (C3P2) would be similar. C-3 covers interest rate risk, and therefore would not by definition cover RBC operational risk, which is included in C-4 (all other business risk). More generally, we understand that Operational Risk in the RBC formulas is under review by another NAIC group.

6. **In a couple of places (see for example, page 9), the AAA report seems to say that AG 43 does not necessarily produce adequate reserves. What would you need to do to verify that the reserves produced are adequate reserves for CDAs?**

Response:
As you mentioned, the Academy's LPC report on page 9 states, "It does not intend to prove that AG 43 produces adequate reserves for either product." The report makes a similar statement on pages 13-14, stating, "The statement that AG 43 is an appropriate framework should not be considered an assertion that AG 43 will produce adequate reserves in all cases." However, in the summary on page 14 it also states, "AG 43 is an appropriate framework in that it can be used to reflect risks and to determine reserves for CDAs, but only if appropriate assumptions and techniques are used." A distinction needs to be made between "adequate" and "appropriate" reserves.

Adequacy is a company-specific determination. The CAIWG cannot and should not determine that a company's reserves will be adequate. It can only speak to whether a principle-based valuation method can produce adequate reserves, if followed appropriately. The degree of adequacy is dependent upon the choice of assumptions and individual company circumstances. As such, the concepts and parameters in AG 43 need to be adapted to those characteristics of a CDA that differ from those of a GLWB. Although a CDA has similarities to a GLWB, some assumptions will have to be adapted for product and market differences.

AG 43 defines the appropriate level of reserves by the statistical standard conditional tail expectation (CTE) 70. The CTE 70 level means, by definition, that there will be scenarios explicitly contemplated for which the reserve established is insufficient to the cover all the liability cash flows (i.e., where reserves may be inadequate); however, the resulting reserves are still appropriate because of their adherence to the CTE 70 methodology.

7. **What are the practical uses of sensitivity testing as referred to on page 13? Could you provide an example?**

Response: AG 43 states the following:

"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)."

We believe that most of the sensitivity tests would be similar to those that would be performed for a GLWB product. These might include mean return, investment return volatility, persistency, and benefit utilization.

8. Do the current Actuarial Standards of Practice provide sufficient clarity and guidance on how to address the issues related to this product? The mapping process seems to be particularly important. What qualifications should an actuary have to work on designing these products and doing the mapping task?

Response:

The Actuarial Standards of Practice (ASOPs) are principle-based and do not attempt to prescribe specific mapping procedures for this product or for any other particular product. However, we believe that the ASOPs and the principle-based approaches contained in them do provide sufficient clarity and guidance for CDAs as they would for any product.

At a minimum, we believe actuaries may want to consider at least the following ASOPs to directly apply to reserving for CDA's:

- ASOP No. 1 (Introductory Actuarial Standard of Practice)
- ASOP No. 7 (Analysis of Life, Health, or Property/Casualty Insurer Cash Flows)
- ASOP No. 23 (Data Quality)
- ASOP No. 41 (Actuarial Communications)

The pending ASOP, *Modeling*, might also apply, but we understand that ASOP is not yet final.

As far as the mapping process is concerned, there is general guidance on asset characteristics in Sections 3.4.1 and 3.10 of ASOP No. 7 that may apply.

> Section 3.4.1 states, "Asset Characteristics—The characteristics of an asset affects the timing and amounts of its cash flows. The cash flows of some assets are relatively immune to external factors and can be predicted on the basis of asset structure alone (for example, high-quality noncallable bonds). The cash flows of other assets (for example, callable bonds, mortgage-backed securities, common stocks, derivative contracts, or premium receivables) are more sensitive to external events, and their analysis should be based on a combination of their structure and external factors. The actuary should consider the following issues in making cash flow projections:
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> a. the sensitivity to economic factors, such as interest rates, equity, or other market returns, and inflation rates on the insurer's asset cash flows;
> b. any limitations on the ability to use asset cash flows to support policy or other liability cash flows, such as when a block of assets is specifically held in support of a particular block of business by contract or regulation;

> c. the impact on cash flow associated with asset quality as it relates to the risk of a delay in asset cash flows being collected, asset default, or other financial nonperformance;
> d. the associated costs of maintaining the assets or of converting the assets into cash when necessary;
> e. the historical experience of similar assets, to the extent such experience is credible and relevant to the projection of future asset cash flows; and
> f. other known factors that are likely to have a material effect on asset cash flows, particularly those factors that are likely to have an effect on asset risk or investment rate-of-return risk."
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> Section 3.10 states, "Modeling and Data—The actuary should select an appropriate model for the analysis being performed. When the asset, policy, or other liability cash flows being analyzed are represented by sample or hypothetical data, the cash flows used for modeling should be representative of the block of asset, policy, or other liability cash flows being analyzed and should be consistent with the intended purpose and use of the analysis.

In addition, AG 43 discusses the need for documentation/disclosure of the mapping function several times within the guideline, and guidance on documentation is included in the ASOPs. Examples of guidance on documentation that is included in the listed ASOPs that would apply to mapping follows:

> Section 4.3 of ASOP No. 7 states, "Documentation—The degree of documentation of the actuary's cash flow analysis will vary with the complexity and purpose of the analysis. The documentation should be more complete for more significant assignments such as regulatory cash flow testing than for other assignments such as periodic income projections."
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> Section 3.2 of ASOP No. 41 states, "In the actuarial report, the actuary should state the actuarial findings, and identify the methods, procedures, assumptions, and data used by the actuary with sufficient clarity that another actuary qualified in the same practice area could make an objective appraisal of the reasonableness of the actuary's work as presented in the actuarial report."

We fully support the Actuarial Standards Board (ASB) and the development of ASOPs that actuaries believe would be helpful in providing guidance for this product. The ASB encourages comments from any interested party on existing ASOPs, exposure drafts of existing or new ASOPs or suggestions for new ASOPs.

As with any actuarial work, credentialed actuaries working on CDAs (and any work related to CDAs, such as mapping) are required to have minimum basic education, experience, and continuing education, as appropriate, to be qualified to apply the necessary concepts and techniques to such work successfully, as required by the U.S.

Qualification Standards. We would like to emphasize that this is the same as for actuaries working on GLWBs.

9. Should any company be permitted to write CDAs, or should there be certain standards that would need to be met before a company could be deemed to have enough expertise and financial strength to take the risks associated with CDAs?

Response: We believe that companies should be permitted to write CDAs if they can demonstrate to regulators that they have an adequate risk management system in place. The CAIWG believes that a regulatory review of a company's risk management programs is important. It is our understanding that regulators may able to consider insurers' risk management programs at time of policy form approval.