AMERICAN ACADEMY of ACTUARIES

Ideas for AG 43 and C-3 Phase II Review Process

The intent of this document is to initiate on behalf of the Actuarial Guideline 43 / C-3 Phase II Work Group of the American Academy of Actuaries[1] an open dialogue with the NAIC C-3 Phase II/AG 43 (E/A) Subgroup about the review process for AG 43 and C-3 Phase II – both the review of the work performed and the review of the requirements. Since C-3 Phase II and AG 43 represent a principle-based approach, there might not necessarily be ONE right result, but rather a spectrum over which a reasonable result can be obtained. A dialogue about these issues will help to create a more focused range of common and appropriate practice and provide insights into areas that can be reviewed as part of the evaluation of the overall effectiveness.

This document consists of three components. In the first two components, the term "review" can be applied as both a review of the work performed and a review of the requirements themselves:

1. A sample list of required elements that may be part of a review of the AG 43 and C-3 Phase II work product;
2. A sample list of actuarial practice issues that may be part of a review; and
3. Areas of potential evaluation and research for modifications to AG 43 and C-3 Phase II that have been identified.

These are areas where feedback from regulators and practicing actuaries will be most helpful in improving the effectiveness of principle-based approaches. Although some topics may address more practice-related issues, this is the foundation for continuous improvement. To facilitate the "feedback" process, forums such as the one held during the 2012 Valuation Actuary Symposium[2] on communicating the results of the actuarial opinion and memorandum could be used to provide an early warning of problematic areas of actuarial practice or with either the regulations themselves or their interpretations.

Sample List of Required Elements that may be Part of a Review

1. Gross Wealth Ratios {Appendix 5}[3]

[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] Session 11 OF: *Industry Regulator Discussion: AOMR and RAAIS*

[3] Section references shown refer to sections in AG 43.

S&P 500 Total Return Gross Wealth Ratios at the Calibration Points

Calibration Point	One Year	Five Year	Ten Year	Twenty Year
2.5%	0.78	0.72	0.79	
5.0%	0.84	0.81	0.94	1.51
10.0%	0.90	0.94	1.16	2.10
90.0%	1.28	2.17	3.63	9.02
95.0%	1.35	2.45	4.36	11.70
97.5%	1.42	2.72	5.12	

a. Did the company satisfy the calibration criteria? Did the actuary discuss how the scenarios used compared with the calibration criteria and discuss how he/she was satisfied that any differences did not materially reduce results {section A5.2}?
b. Did the company use the prepackaged scenarios or a proprietary generator?
   i. If prepackaged scenarios {section A5.8}:
      1. Has the manner in which funds were mapped to the asset classes been described {section A1.1)B}?
      2. If hedge assets were modeled, how were the fair values of the projected hedge assets correlated to the prepackaged scenarios?
   ii. If the company generated its own scenarios:
      1. Has the model been described?
      2. How were other funds calibrated and shown to be consistent with the S&P 500 Total Return criteria (e.g., gross wealth factors, Sharpe ratios)? {section A5.4), A8.3)D)3c}
c. Number of scenarios used? {section A1.3)A}
   i. If only tail scenarios were run, how did the actuary determine that the scenarios were indeed the tail scenarios?
   ii. How did the actuary determine the number of scenarios was sufficient to avoid a materially understatement of results?

2. Grouping of Variable Funds and Subaccounts {section A1.1)B}
   a. Was the mapping of each variable account to modeled funds provided? How efficient was the fit?
   b. How was the mapping to the proxy fund expressed (e.g., as a linear combination of recognized market indices or sub-indices)?
3. Grouping of Contracts {section A1.1)C}
   a. If a seriatim projection was not utilized, was the grouping of contracts described?
   b. How did the actuary determine that the grouping didn't materially understate results?
4. Revenue sharing {section A1.1)E}
   a. Is revenue sharing included? If yes:
      i. Has a margin been included?

        ii. Are expenses incurred by the company in conjunction with the agreements included?
        iii. Has non-contractually guaranteed Net Revenue Sharing income been reduced based on projection years and ultimately capped?
        iv. Does the amount of Net Revenue Sharing Income satisfy the limits prescribed in section A1.1)E)6)?
5. Length of Projections {section A1.1)F}
    a. Was the length and the rationale for determining the length described?
    b. How did the actuary determine that a longer projection period would not materially increase the result?
6. Hedging {section A1.1)D}
    a. Are the costs and benefits of hedging instruments currently held reflected in the projections?
    b. Does the company have a Clearly Defined Hedging Strategy?
        i. Does it meet the requirements of Appendix 7?
    c. Has the hedging strategy changed? If so, is the effective date documented?
    d. Did the actuary's work indicate whether the impact of hedging result in an increase to results (reserve or total asset requirement)?
    e. How was E (effectiveness factor) determined?
    f. Were any alternative approaches or material estimates used? Have they been described?

Sample List of Actuarial Practice Issues that may be Part of a Review

There are areas in AG 43 and C-3 Phase II where practice could be influenced to improve the overall effectiveness and transparency of the requirement. Improvement in these areas would lead to better understanding and acceptance of these principle-based approaches and could ultimately lead to adjustment and/or removal of some of the "guardrails" in these requirements, even if these requirements and the associated standards of practice are not being violated.

1. Scenario generation – how were risks not specifically covered by the scenario generation process (e.g., foreign currency, volatility) reflected in the results?
2. Clearly Defined Hedging Strategy (CDHS) – where the hedging strategy did not qualify for CDHS treatment, was the rationale for not qualifying documented and what did the company model for its investment strategy in lieu of the hedging strategy?
3. Validating model results of hedging – how did projected results compare to actual?
4. Anticipated Experience assumptions – how do they compare to actual experience? What major assumptions changed from the prior year?
5. Emerging experience – what changes to assumptions or modeling methodology were changed based on emerging experience?
6. Dynamic assumptions (e.g., lapses, withdrawals) - how did they compare to actual, particularly in the down scenarios?
7. Expenses - treatment within models - what expenses were included and did they reflect expense risk in down scenarios?

8. Were any assumptions set without experience? If so, what were the bases for those assumptions?
9. What were the results of the illustrative application of the Standard Scenario {section A3.1)D)}and were any actions taken as a result (i.e., are we getting any value out of this – if not, then we may be able to reduce the workload)?
10. Comparison of CTE 90 / CTE 70 results to the Standard Scenario.
11. Comparison of reserve/C-3 risk-based capital level to prior year (to see how "total funds" are split between reserve and C3 amount as conditions change from year to year).
12. Documentation of reasons for any differences in assumptions or methods for AG 43 vs. C-3 Phase II.
13. Documentation of model validation procedures: dynamic model validation – how well did the model perform under actual economic conditions?
14. To what extent did changes in the external environment (e.g., economic changes like a significant yield curve shift, or annuity market shift such as major players entering or exiting the market) affect modeling and assumption setting?

Identified areas of potential evaluation and research for modifications to AG 43 and C-3 Phase II

This list has been compiled only with the intention of raising issues concerning these requirements and does not necessarily represent an endorsement of any of these issues. These are listed in alphabetical order to avoid any perception that they indicate an order of importance.

1. Aggregate margins (Academy Life Financial Soundness/Risk Management Committee July 30, 2012)
2. Alignment of C-3 Phase II and AG 43 (ACLI June 20, 2011)
3. Assumptions (New York Department of Financial Services (NYDFS) March 14, 2012)
4. At what level should reserves and risk-based capital be set (i.e., is CTE 70 and CTE 90 the appropriate levels)? (raised by several parties)
5. Calibration criteria – The NYDFS and other members of LATF are concerned with the recent volatility (NYDFS March 14, 2012)
6. Counter-intuitive impact of hedging (Oliver Wyman June 2010)
7. Counterparty risk (NYDFS March 14, 2012)
8. Domination of the Standard Scenario (Oliver Wyman June 2010)
9. Identification of practice issues (ACLI June 20, 2011)
10. Incentive/disincentive to hedge (ACLI June 20, 2011)
11. Interest rate risk (NYDFS March 14, 2012)
12. Lapse assumptions for deep-in-the-money guarantees (NYDFS March 14, 2012)
13. Level and volatility of capital requirements (Oliver Wyman June 2010)
14. Misalignment of requirements with the underlying risk fundamentals (Oliver Wyman June 2010)
15. Model validation vs. actual data (NYDFS March 14, 2012)
16. Reinsurance (NYDFS March 14, 2012)
17. Requirements of VM-31 (NYDFS March 14, 2012)

18. Risks excluded (NYDFS March 14, 2012)
19. Risk mitigation techniques (NYDFS March 14, 2012)
20. Standard Scenario ITM definition (NYDFS March 14, 2012)
21. Treatment of hedging (raised by several parties since 2005)