



AMERICAN ACADEMY *of* ACTUARIES

Response to the New York Insurance Department Comments on the Requirements for Principles-Based Reserves for Life Products from the American Academy of Actuaries' Life Reserves Work Group

**Presented to the National Association of Insurance Commissioners'
Life and Health Actuarial Task Force**

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Response to Comments from New York on LRWG Proposal

(New York comments are listed in the appendix)

This document provides a summary of the Life Reserves Work Group's (LRWG) response to comments received from New York on the LRWG proposal which was exposed for comment at the June LHATF meeting. The purpose of this summary is to address the comments made by New York, and to help clarify several elements of the LRWG proposal for LHATF.

- 1) 2.E. We will add the following drafting note after 2.E. "Drafting Note: See Subsection 4.E.5. for further guidance on the application of this guiding principle to the determination of margins for each risk factor."
- 2) 4.A.3. The LRWG disagrees. As a practical consideration, the input we have received indicates that some companies will need to be allowed a modeling date up to 6 months prior to the valuation date in order to allow enough time for companies to perform all of the post-testing tasks needed to complete a PBA valuation; at least for the first several years after the effective date.
- 3) 4.D.3. We will change: "... intentionally understates the resulting Reported Reserve" to: "... intentionally produces a Stochastic Reserve less than what would result by a seriatim approach (i.e., no grouping). An appropriate rationale may be used to satisfy this requirement, in lieu of an explicit seriatim calculation."
- 4) 4.D.4. The LRWG disagrees. Full aggregation across all policies in the stochastic calculation is a fundamental element of a principles-based approach. However, it should be noted that the use of the Deterministic Reserve as a minimum floor may serve to limit the amount of aggregation that is reflected in the final Reported Reserve.
- 5) 4.D.6. The LRWG agrees in part and disagrees in part. The requirements already state that groups of policies with investment strategies which include Clearly Defined Hedging Strategies (i.e., with future transactions) are not eligible for the stochastic exclusion. A placeholder for a short list of exceptions and also a domiciliary commissioner exception are provided. See 4.D.6.(f) and ensuing drafting note. The list should be completed for the next exposure, based on the ideas in the drafting note of the current exposure.

The LRWG disagrees however, that existing hedges related to a group of policies should necessarily force stochastic modeling. Hedges such as interest rate swaps or currency swaps are often perfect hedges having no residual risk other than counterparty risk, and do not require stochastic modeling. In demonstrating that a group of policies is eligible for the stochastic modeling exclusion, the company must "provide an effective evaluation of the residual risk exposure resulting from risk mitigation techniques such as derivative programs and reinsurance."

- 6) 4.E.5. Add the following wording at the end of 4.E.5. "If the company decides to jointly determine margins for 2 or more risk factors, the company shall still determine a margin for each risk factor."

And then add the following footnote after 4.E.5. “Drafting note: Due to the difficulty in determining margins in the aggregate, it is expected that the use of this exception will be rare, at least in the initial years following the effective date of these requirements. As emerging practice and techniques in this area continue to evolve, this may become a more common practice in future years.”

- 7) 4.F.5. The LRWG disagrees. We believe the use of prescribed net spreads over Treasuries on reinvestment assets, and disclosure of the aggregate net spread on starting assets, create an appropriate limitation on the level of net spreads assumed in the Net Asset Earned Rates, and provide sufficient information for the regulator and the PBA Review Actuary to evaluate the appropriateness of the Net Asset Earned Rates in order to determine if adjustments to the Net Assets Earned Rates are needed.

Also, it needs to be emphasized that the use of a lower discount rate may not result in a more conservative (i.e., higher) reserve. This is because the Stochastic Reserve is based on the greatest present value of accumulated deficiencies, and some of the accumulated deficiencies used in the CTE calculation might be negative. When the accumulated deficiency for a specific scenario is negative, the use of a lower discount rate will result in a lower PV of accumulated deficiency for that scenario. Thus, if there are more scenarios with negative deficiencies than positive deficiencies used in the CTE calculation, the use of a lower discount rate could result in a lower reserve.

- 8) 4.F.10. The LRWG disagrees. Including all expected asset and liability cash flows is a critical part of PBA. Interest-sensitive asset returns, issuer behavior, policyholder behavior, interest crediting strategy, etc., are all modeled in the context of the scenario path of rates. It wouldn't make sense in that context to ignore future rebalancing of derivative instruments as this rebalancing is a critical aspect of the risk management of the block. Removing the ability to rebalance the derivatives diminishes any incentive the PBA might otherwise have created to induce companies to engage in desirable risk mitigation activities such as hedging. In either case, ignoring future purchases would prove counterproductive to the goals of a PBA.

For the Stochastic Reserve, the LRWG believes that a maximum “50% hedging credit” for dynamic hedging programs is arbitrary and is not principles-based. Dynamic hedging programs come in many gradations and can be designed to cover various types of liabilities, from secondary guarantees on VUL to equity indexed products. For that reason the company is required to analyze and reflect in its reserves any and all material residual risks and frictional costs in its particular programs, as provided in subparagraphs 4.F.10.(b) and (c). In addition, the calculations needed to determine the amount of the “50% hedging credit” pose several perplexing issues, such as: how should funds which are normally used to purchase hedges be hypothetically invested? Further, for an equity indexed UL product, a reserve calculated assuming that either no hedges are purchased, or only 50% of the required hedges are purchased, would be so large as to lose all of the realism sought in a PBA valuation.

- 9) 5. The treatment of risk transfer within a PBR is currently being considered by the Academy's Life Reinsurance Work Group. We suggest that LHATF consider their forthcoming report and recommendations before making any decisions on this issue.

- 10) 5.A.5. The LRWG disagrees. Under PBR, the reserve credit may exceed the gross direct reserve in a variety of situations. For example, the future allowances payable by the reinsurer may exceed the projected renewal expenses on the reinsured block. Another example is when the mode of payment to the reinsurer is less frequent than the mode of payment from the policyholder. The additional reserve credit reflects the excess of cash flows to be received from the policyholder over the cash flows to be paid to the reinsurer.
- 11) 5.D.3. The LRWG believes that the risk of a “risky”, but not yet impaired, company failing to fulfill its contractual obligations is a risk more appropriately addressed by capital than by reserves.
- 12) 6. The LRWG doesn’t disagree with this proposed sentence, but since the current SVL already gives the commissioner this authority, it would be redundant to include it here.
- 13) 6.D.4. We agree more guidance is needed. We will attempt to address this in the next draft.
- 14) 6.E.2. While the LRWG agrees that a higher Margin is necessary when the degree of sensitivity of the reserve to the risk factor is higher, we do not believe that the degree of sensitivity needs to be explicitly identified as a reason for a higher Margin. This is because the degree of sensitivity is already reflected in the Margin through the requirement that Margins must reflect the degree of adverse deviation in the risk factor. To require a higher Margin for the degree of sensitivity of the risk factor in addition to making provision for adverse deviation would result in “double counting”. Thus, we will remove the reference to the degree of sensitivity in the discussion of Margins within the expense section, and will clarify that the need for a higher Margin to reflect the degree of sensitivity be already covered in the requirement that Margins reflect the degree of adverse deviation. We will also make modifications to ensure consistency between the various discussions of Margins throughout the document.
- 15) 7. The LRWG disagrees. Items that are in the nature of guidance belong in an Actuarial Standard of Practice, not in the reserve requirements. Only items that are mandatory and must be followed should be in the reserve requirements.
- 16) 7. We have modified your proposed wording to read as follows: “To the extent that there is an absence of relevant and fully credible data, the Margin shall be determined such that the policyholder behavior assumption is shifted toward the conservative end of the range of plausible behavior that serves to increase the Reported Reserve.”
- 17) 7.E.1. See comment in item 14 above.
- 18) 8.A.9. The LRWG disagrees. As we have discussed with you before, there are strong arguments found in actuarial literature that reserves should be on a pre-tax basis. Attached is a paper from Ed Robbins that we have provided to you in the past that provides such an argument.

Reserves need to be calculated before any consideration of income tax, since part of the reserve is tax deductible, which then affects income. It is therefore not proper to reduce reserves for these income taxes. If the reserve was defined as post-tax, it

would be difficult, if not impossible, to calculate the reserve, since the reserve itself directly affects company income taxes.

As an example: assume reserves are set using prudent estimates (i.e., anticipated experience plus a margin), tax reserves equal statutory reserves, and experience emerges equal to anticipated experience. Then statutory book profit before federal income tax will equal the release of the margin, statutory federal income tax expense will equal the tax rate times the margin released, and statutory income after federal income tax expense will equal the margin times (1 minus the tax rate). These amounts will result only if the statutory reserves are on a pre-income tax basis. (Note: when statutory reserves and tax reserves are different, the statutory deferred tax provision serves to make a corresponding adjustment to post-tax income.)

19) 9.B.2. The LRWG disagrees. ALM risk is reflected in the stochastic reserve. Further, ALM risk must be considered by the actuary when determining whether a group of policies can be excluded from stochastic modeling. As a result, an ALM charge in the deterministic reserve is unneeded and would add unnecessary complexity. The risk itself is a function of both the assets and liabilities and varies significantly by company depending on the specific characteristics (including the interest-sensitive aspects) underlying both the assets and liabilities. In a sense, the excess of the stochastic reserve over the deterministic reserve already provides a measure of this risk.

20) 9.D.2. The LRWG disagrees. We do not believe there is any evidence supporting 2% as an appropriate deterministic equity return assumption. Given the calibration of the stochastic equity scenarios, it is near certain that the Deterministic Reserve would be substantially greater than the Stochastic Reserve under such an assumption. The current LRWG requirements set the Deterministic Reserve equity return in each period to the corresponding 10-year Treasury rate, plus a prescribed spread similar to bonds. This formulation was discussed previously with New York. We still plan to test this approach with some further modeling analysis on a variable universal life insurance product as soon as the Academy's new interest scenario generator becomes available.

Also, as mentioned in item #7 above, the use of a lower discount rate may not result in a more conservative (i.e., higher) reserve. This is because the Stochastic Reserve is based on the greatest present value of accumulated deficiencies, and some of the accumulated deficiencies used in the CTE calculation might be negative. When the accumulated deficiency for a specific scenario is negative, the use of a lower discount rate will result in a lower PV of accumulated deficiency for that scenario. Thus, if there are more scenarios with negative deficiencies than positive deficiencies used in the CTE calculation, the use of a lower discount rate could result in a lower reserve.

21) 9.E. Four alternatives are defined in the LRWG proposal to determine stochastic scenarios. Three of the four involve prescribed elements (i.e., a prescribed generator, a prescribed set of pre-determined scenarios, and a prescribed set of calibration criteria that must be met if a company uses their own stochastic generator). The fourth alternative (the use of proprietary scenario sets) is still under discussion as to whether it is an appropriate alternative.

- 22) 10.A. The LRWG disagrees. The actuary should exercise judgment to determine the appropriate treatment of revenue sharing in the cash flow model, reflecting the uncertainty in receiving the revenue sharing payments.
- 23) Commissioner's authority. The LRWG believes there is no need to mention this in the LRWG draft since it is addressed in the SVL.
- 24) Qualification standards. The LRWG believes these standards should be defined in the SVL or in an appropriate section of the Valuation Manual that deals with all products, not in the reserve requirements for each product. In addition, the use of the FSA as a qualification criteria for public statements is not endorsed by the SOA.
- 25) Penalty Reserve. The LRWG believes the issue of penalty reserves is more appropriately addressed as a possible change to the SVL, to examination procedures or governance requirements and not directly within the separate sections of the Valuation Manual that address the reserve requirements of each product line.
- 26) Transparency / Standard reporting format. The LRWG agrees, but this issue is being addressed by other Academy work groups. The LRWG will work with these work groups to incorporate this into the LRWG proposal, as appropriate.

Appendix:

New York Comments on LRWG Proposal:

1. 2.E. Principle on margins: Each individual assumption should have its own margin, and each individual margin can be reduced (but not eliminated) if covariance is demonstrated. This seems to be implied but isn't explicitly stated.
2. 4.A.3. Testing should be performed within 3 months of valuation date, not 6 months.
3. 4.D.3. Grouping of policies / model office - Should require resulting reserves to be at least as high as if calculated seriatim, instead of "not intentionally understating". Deductive reasoning, in lieu of seriatim calculation, may be acceptable.
4. 4.D.4. Blocks should be modeled separately by major plan; non-homogeneous risks should be modeled separately.
5. 4.D.6. Stochastic Exclusion – Hedges should be stochastically modeled.
6. 4.E.5. Individual margins or aggregate adjustment: see 2E.
7. 4.F.5. Cap on Net Asset Earned Rate for starting assets should be prescribed and based on the risk-free rate.
8. 4.F.10. Modeling of hedges - for Deterministic reserve, only assets held on the valuation date should be used to offset reserves, and for Stochastic, the maximum credit for dynamic hedging should be 50% of the reserve related to the block impacted by dynamic hedging.
9. 5. Reinsurance - Current risk transfer rules should be maintained, as there is no place to "draw the line" regarding partial risk transfer.
10. 5.A.5. Reinsurance - The reserve credit should not exceed the gross reserve.
11. 5.D.3. Reinsurance - margin only if known financial impairment, what if risky company with no current impairment?
12. 6. Mortality - Add sentence stating, "The commissioner may require a company to change the mortality table if it is determined by the commissioner that inadequate justification of anticipated mortality is provided by the company."
13. 6.D.4. Mortality - Grade beyond experience period is allowed, but is there enough guidance, e.g., how to incorporate underwriting criteria?
14. 6.E.2. Sensitivity tests – need clarification on how to increase margins to reflect sensitivity tests - use expense section wording (sensitivity tests that show high sensitivity shall lead to higher margins)
15. 7. Policyholder behavior - guidance & constraints should be put back in the document (not in ASOP).

16. 7. Policyholder behavior - Add this wording: "To the extent there is an absence of relevant and fully credible empirical data over a range of environments that could materially impact the behavior of contractholders, behavior assumptions shall be set toward the conservative end of the plausible spectrum."
17. 7.E.1. Sensitivity tests – see 6.E.2.
18. 8.A.9. Pre-tax vs. post-tax: should be post-tax to the extent recoverable.
19. 9.B.2. ALM risk reflection in Deterministic reserve: deduction to income should be required
20. 9.D.2. General Account Equity & Highly Volatile Asset Returns: should be set at 2% annual return.
21. 9.E. Economic Scenarios: NY would prefer prescribed scenarios.
22. 10.A. Revenue Sharing - it should offset reserves only for the duration that the income is contractually guaranteed to the insurer and successor.
23. Commissioner's authority: the right for the commissioner to determine method and assumptions should be mentioned.
24. Qualification standards: FSA or commissioner approval of ASA + knowledge & experience should be mentioned.
25. Penalty reserve: if the company has previously set an unduly optimistic assumption.
26. Transparency: Standard Reporting Format should be stated in the Actuarial Report.