December 15, 2025

Seong-min Eom, Chair
Longevity Risk (E/A) Subgroup
National Association of Insurance Commissioners

Re: Request for Longevity Reinsurance C2 Proposal and LR025-A redline.docx

Dear Chair Eom:

On behalf of the Longevity Risk Task Force (the Task Force) of the American Academy of Actuaries,[1] I am sharing some additional feedback regarding a framework for the RBC C-2 charge for longevity reinsurance.

On November 14, 2025, the Task Force submitted a letter to the Longevity Risk (E/A) Subgroup (Subgroup) addressing the Subgroup's request for a proposal for the RBC C-2 charge for longevity reinsurance. This letter provides additional detail for our approach to setting a longevity risk charge, which we consider to be tail risk. The Task Force also updated the proposal with specific parameters to better facilitate discussion of a specific proposal. Additionally, the Task Force submits a mark-up to LR-025A to reflect the proposed approach to longevity C-2 risk as an attachment to this letter.

Academy's Updated Proposal

The Task Force proposes the following structure for a total asset requirement (TAR)-based framework:

1) Project future premiums & reinsurance fees*
2) Project future benefits & expenses, under the following mortality scenarios:
    a. Baseline mortality assumptions used in statutory reserving
    b. Mortality level shock: ***[0.7%]*** multiplicative (i.e., mortality rates should be multiplied by ***99.3%***)
    c. Mortality improvement, or trend shock: ***[0.15%]*** additive in all years
3) Calculate TAR as the present value of the future benefits & expenses, using the mortality shocks in (2) above, less the present value of premiums and fees.
    a. TAR at baseline = TAR_0 = PV (Future Benefits & Expenses less Premiums & Reinsurance Fees)
    b. TAR for mortality level shock = TAR_1 = PV (Future Benefits & Expenses with Mortality Level shock, less Premiums & Reinsurance Fees)
    c. TAR for mortality trend shock = TAR_2 = PV (Future Benefits & Expenses with Mortality Trend shock, less Premiums & Reinsurance Fees)

[1] The American Academy of Actuaries is a 20,000-member professional association whose mission is to serve the public and the U.S. actuarial profession. For more than 60 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

   d. The discount rate(s) used to calculate the present value shall be based on ***[the net asset earned rate (NAER) of SERT scenario 9 (baseline scenario) / applicable CARVM discount rate]***.

4) C-2 charge for Longevity Reinsurance = Max [(TAR_0 + [(TAR_1 – TAR_0)^2 + (TAR_2 – TAR_0)^2]$^{0.5}$ – Statutory Reserve),0]

*For blocks that use a PBR reserve framework, the company's PBR model shall be used as the projection model. For blocks that do not use the PBR reserve framework, the company's cash-flow testing model shall be used.

This calculation should be performed annually to determine the capital amount.

Please also see attached to this letter the Task Force's proposed redline of NAIC RBC instructions for LR025-A for further details.

Discussion of Parameters

In the above proposal, the Task Force identified two areas for potential calibration and discussion—the level of the mortality shocks and the discount rate(s) at which future cash flows are discounted.

The mortality level and trend shocks in the proposal have been retained from the prior analysis done by the Task Force to support the original C-2 factor proposal shared at the NAIC 2019 Spring National Meeting to the Life Risk-Based Capital (E) Working Group. While the proposed level of the mortality shocks has a foundation in a previous recommendation, the Task Force notes that the calibration of the level of the shocks remains an open issue that may warrant further analysis.

With regard to discount rates, the Task Force notes that the primary driver of this block of business is to transfer longevity (mortality) risk. Notably, risk related to interest rates and (re)investment for the block are not primary risks for the block. Thus, the Task Force concludes that a single deterministic scenario, consistent with the economics of the projection, is sufficient as a basis for determining the discount rate(s) for this calculation.

If there are any questions or if the Subgroup would like to discuss these comments or the example further, please contact Amanda Barry-Moilanen, the Academy's life policy project manager (barrymoilanen@actuary.org).

Sincerely,

Linda Lankowski, MAAA, FSA
Chairperson, Longevity Risk Task Force
American Academy of Actuaries

			(1)				(2)
		Annual Statement Source	Statement Value		Factor		Requirement
	Life Contingent Annuity Reserves, excluding Longevity Reinsurance						
(1)	General Account Life Contingent Annuity Reserves	Exhibit 5 Column 2 Line 0299999, in part‡	$0				
(2)	General Account Life Contingent Supplemental Contract Reserves	Exhibit 5 Column 2 Line 0399999, in part‡	$0				
(3)	General Account Life Contingent Miscellaneous Reserves	Exhibit 5 Column 2 Line 0799999, in part‡	$0				
(4)	Separate Account (SA) Life Contingent Annuity Reserves	S/A Exhibit 3 Column 2 Line 0299999, in part‡	$0				
(5)	Total Life Contingent Annuity Reserves, excluding Longevity Reinsurance	Lines (1) + (2) + (3) + (4)	$0	X	†	=	$0
			========				==========
	Longevity Reinsurance						
(6)	Present Value of Net Cash Flows	Company Records (enter a pre-tax amount)	$0				
(7)	Present Value of Net Cash Flows after Mortality Level Shock	Company Records (enter a pre-tax amount)	$0				
(8)	Present Value of Net Cash Flows after Mortality Trend Shock	Company Records (enter a pre-tax amount)	$0				
(9)	Life Contingent Annuity Reserves, Longevity Reinsurance	Exhibit X Column Y Line AAAAAAA	$0				Seeking NAIC feedback for Annual Statement Source
(10)	Total Longevity Reinsurance C-2 Longevity Capital	Max[[Line (6) + [(Line (7) – Line (6))^2 + (Line (8) – Line (6))^2]$^{0.5}$] – Line(9),0]					$0

[1] The American Academy of Actuaries is a 20,000-member professional association whose mission is to serve the public and the U.S. actuarial profession. For more than 60 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

† The tiered calculation is illustrated in the Longevity Risk section of the risk-based capital instructions.
‡ Include only the portion of reserves for products in scope per the instructions

Denotes items that must be manually entered on the filing software.

LONGEVITY RISK

LR025-A

Basis of Factors

The factors chosen represent surplus needed to provide for claims in excess of reserves resulting from increased policyholder longevity calibrated to a 95th percentile level. For the purpose of this calibration aggregate reserves were assumed to provide for an 85th percentile outcome.

Longevity risk was considered over the entire lifetime of the policies since these annuity policies are generally not subject to repricing. Calibration of longevity risk considered both trend risk based on uncertainty in future population mortality improvements, as well as level or volatility risk which derives from misestimation of current population mortality rates or random fluctuations. Trend risk applies equally to all populations whereas level and volatility risk factors decrease with larger portfolios consistent with the law of large numbers.

Except for longevity reinsurance, ~~S~~statutory reserve was chosen as the exposure base as a consistent measure of the economic exposure to increased longevity. Factors were also scaled by reserve level since number of insured policyholders is a less accessible measure of company specific volatility risk. Factors provided are pre-tax and were developed assuming a 21% tax adjustment would be subsequently applied.

For longevity reinsurance, the present value of benefits offers a more consistent measure of economic exposure than statutory reserves. For longevity reinsurance, shocks to mortality level and mortality trend are modeled to produce a present value of net cash flows. Net cash flows are the present value of benefits and expenses, net of the present value of premiums and reinsurance fee income. Shocks provided are pre-tax and were developed assuming a 21% tax adjustment would be subsequently applied.

Specific Instructions for Application of the Formula

Excluding longevity reinsurance, ~~A~~annual statement reference is for the total reserve for the products in scope. The scope includes annuity products with life contingent payments where benefits are to be distributed in the form of an annuity. The entire reserve amount for contracts in scope that include any life contingent payments are in scope. For example, under a certain-and-life style annuity, the entire reserve for both the certain payments and life contingent payments are in scope. Variable immediate annuity reserves under VM-21 are also in scope where there are life contingent payments. Scope does not include annuity products that are not life contingent, or deferred annuity products where the policyholder has a right but not an obligation to annuitize. A certain-and-life style annuity, where only certain payments remain (such as following the death of the annuitant), is out of scope. Variable deferred annuity contract reserves under VM-21 are out of scope, including reserves valued under VM-21 for any contracts where policyholder account value has reached zero, but a lifetime benefit may still be payable by the insurer. Line (3) for General Account Life Contingent Miscellaneous reserves is included in the event there are any reserves for products in scope reported on Exhibit 5 line 0799999; it is not meant to include cash flow testing reserves reported on this line. Included in scope are:

- Single Premium Immediate Annuities (SPIA) and other payout annuities in pay status
- Deferred Income Annuities which will enter annuity pay status in the future
- Structured Settlements for annuitants with any life contingent benefits
- Group Annuities, such as those associated with pension liabilities with both immediate and deferred benefits

The total reserve exposure is then further broken down by size as in a tax table. This breakdown will not appear on the RBC filing software or on the printed copy, as the application of factors to reserves is completed automatically. The calculation is as follows:

Line (5)	Life Contingent Annuity Reserves Excluding Longevity Reinsurance	(1) Statement Value	Factor		(2) RBC Requirement
	First 250 Million		X 0.0171	=	
	Next 250 Million		X 0.0108	=	
	Next 500 Million		X 0.0095	=	
	Over 1,000 Million		X 0.0089	=	

Total Life Contingent Annuity Reserves Excluding Longevity Reinsurance

For Longevity Reinsurance, the company modeling of benefits is the basis for the statement value. Specifically, the statement value should be the present value of benefits from an appropriate model. For longevity reinsurance that is being reserved under PBR, the present value of benefits should come from their PBR model. For longevity reinsurance that is not being reserved under PBR, the company should use their Cash Flow Testing model.

For longevity reinsurance, the mortality level shock is a [99.3%] multiplicative factor to all future mortality rates. The mortality trend shock is a [0.15%] additive factor to the mortality improvement factors in all future years.

The discount rates used to calculate the present value shall be based on the model used to produce the projected benefits & expenses. For longevity reinsurance that is being reserved under PBR, the net asset earned rate (NAER) of SERT scenario 9 shall be used as the discount rate. For longevity reinsurance that is not being reserved under PBR, the applicable CARVM discount rate shall be used as the discount rate.

The amount ultimately included in the authorized control level will be subject to a guardrail factor of 0_and a correlation factor of -.25.