

Draft: 4/18/22

Life Risk-Based Capital (E) Working Group  
Virtual Meeting (*in lieu of meeting at the 2022 Spring National Meeting*)  
March 23, 2022

The Life Risk-Based Capital (E) Working Group of the Capital Adequacy (E) Task Force met March 23, 2022. The following Working Group members participated: Philip Barlow, Chair (DC); Jennifer Li (AL); Thomas Reedy (CA); Wanchin Chou (CT); Sean Collins (FL); Mike Yanacheak and Carrie Mears (IA); Vincent Tsang (IL); Fred Andersen (MN); William Leung (MO); Derek Wallman (NE); Kevin Clarkson (NJ); Bill Carmello and Amanda Fenwick (NY); Andrew Schallhorn (OK); Mike Boerner and Rachel Hemphill (TX); and Tomasz Serbinowski (UT).

1. Adopted its March 10, 2022; Jan. 10, 2022; Dec. 16, 2021; and 2021 Fall National Meeting Minutes

The Working Group met March 10, 2022; Jan. 20, 2022; and Dec. 16, 2021. During these meetings, the Working Group took the following action: 1) discussed the American Academy of Actuaries' (Academy's) recommendation on mortality; 2) exposed the changes to the asset valuation reserve (AVR) for a public comment period ending March 25; 3) discussed the Academy's comment letter on longevity reinsurance; and 4) adopted the guidance document on bond factor changes.

Mr. Yanacheak made a motion, seconded by Mr. Reedy, to adopt the Working Group's March 10, 2022 (Attachment Four-A); Jan. 10, 2022 (Attachment Four-B); Dec. 16, 2021 (Attachment Four-C); and Nov. 9, 2021 (*see NAIC Proceedings – Fall 2021, Capital Adequacy (E) Task Force, Attachment Three*) minutes. The motion passed unanimously.

2. Adopted its Working Agenda

Mr. Barlow said a request to add two items to the working agenda was received. Dave Fleming (NAIC) said one was to add the C-2 mortality work being done and another was to add an item for securities lending as it relates to the C-0 charge. Mr. Barlow suggested adding the C-2 item but not the C-0 item as it has yet to be discussed by the Working Group and could affect the other risk-based capital (RBC) formulas.

Mr. Yanacheak made a motion, seconded by Mr. Leung, to adopt the Working Group's working agenda with the modification to add the C-2 item. The motion passed unanimously.

3. Discussed Reinsurance and Comfort Trusts

Andrew Holland (Sidley Austin LLP) said he is presenting on behalf of J.P. Morgan and thanked the Working Group for the opportunity to introduce this topic (Attachments Four-D and Four-E). He said life reinsurance transactions with licensed or accredited reinsurers would not require collateral in order to receive credit for that reinsurance. He said the life RBC instructions provide for an adjustment when there is a reinsurer that is licensed or accredited, but collateral is nonetheless provided, whether it is funds withheld or trusteed collateral, to prevent an overstatement of RBC. He said there are many life reinsurance transactions done where, notwithstanding a licensed or accredited status, the parties agree to the provision of collateral and when that collateral is provided, it is often something that is not a pure statutory credit for reinsurance trusts, but something referred to as a comfort trust. For a ceding company to avail itself of the RBC credit with the current instructions, he said the collateral needs to be in the form of a trust. He said what is being introduced to the Working Group is another collateral mechanism, which is the functional equivalent with a request to amend the instructions to provide for a similar credit. Mr. Holland stated that the comfort trust is a custodial account that is established by the reinsurer

that is coupled with an account control agreement in favor of the ceding company and provides the same benefits that a trust agreement does. He said the collateral is provided by the reinsurer and acts as security to the ceding company, where the ceding company has the ability to draw down on that collateral. He said this is an interesting time to discuss this topic given the implementation of the reciprocal jurisdiction reinsurer provisions, which stand to loosen the requirement for statutory collateral going forward.

Phil Prince (J.P. Morgan) made the point that custody control accounts are widely used in the finance industry already. He said it is the way in which collateral is held for pledges to the Federal Home Loan Banks (FHLBs), as well as being used in the derivatives area. He said J.P. Morgan has thousands of these custodial control accounts already in place and has a much smaller number of insurance trusts, as those are a much more narrowly used mechanism, and they are asking that custody control accounts be treated in the same manner for purposes of the RBC calculation. Brian Eckert (J.P. Morgan) described how custody control accounts offer the same operational control as a trust arrangement but at a reduced cost due to a larger number of providers and automation. Brad Drake (J.P. Morgan) described the specific instructional changes requested, which he said provides a specific definition of custodied collateral.

Mr. Andersen asked about liquidation of the reinsurer and how the ceding company would be taken care of. Similar to a trust arrangement where the mechanism for segregating assets is through the transfer to a trustee, Mr. Drake said it is the control agreement, paired with the custody account, which creates the security interest and makes the ceding company a secured creditor and provides the same functionality as a trust. Mr. Tsang said it would be beneficial to the Working Group to have a sample transaction to review to see that the cash flows, and the end result, work as they are being described and that there are no risks unaccounted for between the different structures. Mr. Holland said they would be happy to provide sample documentation. Mr. Barlow said the Working Group will continue discussion on this topic as that additional information is provided.

#### 4. Discussed Bond Funds

Michael Ceccarelli (Vanguard) presented the proposal (Attachment Four-F). He said clients have long asked why most bond mutual funds are not afforded RBC treatment aligned with their underlying bond holdings. Instead, the current standard is that most bond mutual funds receive an equity charge of 30%, despite owning the same bonds that are directly owned by insurers and receive C-1 bond factors. Mr. Ceccarelli said this unaligned RBC treatment is deterring insurers from selecting the mutual fund structure as a means to access a diversified portfolio of bonds. For decades, under limited circumstances, he said the mutual fund structure has received more favorable RBC treatment, in the form of money markets and pure-government bond mutual funds. He said the long-standing RBC exempt treatment for these mutual funds indicates a general comfort with the fixed income mutual fund structure, a structure that has been around for nearly a century and proven itself during varying market conditions. However, appropriately aligned RBC has always been limited to these two types of fixed income mutual funds, excluding all other mutual funds from receiving capital charges based on their bond holdings.

Mr. Ceccarelli said in the past few years, the Statutory Accounting Principles (E) Working Group and the Valuation of Securities (E) Task Force have made regulatory strides to create a more inclusive standard for fixed income mutual funds by permitting NAIC designation reporting outside of the bond schedule and opening the Securities Valuation Office (SVO) review to all U.S. Securities and Exchange Commission (SEC)-registered fixed income funds. He said this could allow for RBC factors to more adequately reflect the underlying risk of a fund that owns bonds, based on a thorough, established look-through risk evaluation conducted by the SVO.

Mr. Ceccarelli said Vanguard is asking that bond mutual funds be given the opportunity to receive RBC charges that reflect the risks of the bond securities held in the fund. He said Vanguard is not asking for unmitigated application of more favorable charges, but that a non-equity factor is applied only after the bond mutual fund has

submitted for approval through the SVO and the fund has undergone a risk review and assignment of an NAIC designation. Given the bond securities that make up these funds, he said it would be an appropriate proxy to use the highly scrutinized C-1 bond factors that have already been established. Importantly, these 20 factors provide a granular range, and a factor can be dictated and applied to a fund based on the aggregate risk of the bonds held within each uniquely composed fund. Because of the unique composition of each mutual fund, exactness of new, pre-established factors would seem an impossibility but also far less important than having an incrementally increasing range that can be applied to each fund based on the quantitative evaluation of credit quality, and qualitative discretion.

Mr. Ceccarelli said investment RBC charges should ensure adequate, appropriate capitalization based on risk but should not be a leading and determining factor in investment vehicle decisions for insurers. He said this is especially important for small and mid-size insurers that may be at a disadvantage when accessing the bonds they need for their portfolio but are being deterred from accessing those bonds through a mutual fund structure due to the currently associated equity charge. He said Vanguard believes this will provide clear guidance for insurers, align capital charges with the underlying risk of these investments, and give insurers another proven investment vehicle to access additional diversification to complement, not replace, their existing bond portfolios

Mr. Barlow asked if this proposal could also be applicable to the other RBC formulas. Mr. Ceccarelli said that it could. Mr. Barlow suggested the appropriate place for consideration of this proposal might be the RBC Investment Risk and Evaluation (E) Working Group. Mr. Fleming agreed since it could impact the other formulas and suggested a formal referral. Mr. Leung made a motion, seconded by Mr. Boerner, to refer this proposal to the RBC Investment Risk and Evaluation (E) Working Group. The motion passed unanimously.

Having no further business, the Life Risk-Based Capital (E) Working Group adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/2022 Spring National Meeting/Committee Meetings/Financial Condition (E) Committee/Capital Adequacy (E) Task Force/Life Risk-Based Capital (E) Working Group/LRBCWG 3-23-22 Minutes.docx

Draft: 3/22/22

Life Risk-Based Capital (E) Working Group  
Virtual Meeting  
March 10, 2022

The Life Risk-Based Capital (E) Working Group of the Capital Adequacy (E) Task Force met March 10, 2022. The following Working Group members participated: Philip Barlow, Chair (DC); Jennifer Li (AL); Thomas Reedy (CA); Wanchin Chou (CT); Mike Yanacheak and Carrie Mears (IA); Ben Slutsker (MN); William Leung (MO); Derek Wallman (NE); Seong-min Eom (NJ); Bill Carmello (NY); Mike Boerner and Rachel Hemphill (TX); and Tomasz Serbinowski (UT).

1. Discussed the Academy C2 Mortality Work Group Recommendation

Mr. Barlow said there was one comment letter received. Brian Bayerle (American Council of Life Insurers—ACLI) presented the ACLI’s comment letter (Attachment Four-A1). He said the ACLI has one main recommendation with respect to the tiered charges and is suggesting treatment similar to what is currently done for disability income, where the product category with the highest risk charges is considered first, followed by the product category with the next highest risk charges but with recognition of the amount of net amount at risk (NAR) in the first category before determining which tiered charge to use. The third product category would then consider the NAR in the first two categories. He also noted the ACLI’s request for greater clarification of the definitions and improved tie-outs. He said the ACLI prefers option one in the American Academy of Actuaries’ (Academy’s) recommendation because of greater transparency. Mr. Barlow asked if the ACLI would be supportive if the suggested alternative tiering resulted in higher factors. He said it appears the ACLI is supportive of having amounts objectively pulled from the annual statement, but he asked for clarification if the ACLI is suggesting changes to the way certain items are reported. Mr. Bayerle said the ACLI would need to review any change in the proposed factors because of a change in the proposed tiering, but consistency with the analysis would be preferable. With respect to reporting changes, he said changes might be straightforward, and if state insurance regulators think this is a good idea, it might make sense as an area to explore to get direct tie-outs, but it appears that is something to be considered for 2023. Mr. Slutsker expressed appreciation for the ACLI’s suggestion on tiering, as he believes it addresses the risk on a more objective measure, rather than reliance on the name of a product group. Chris Trost (Academy), chair of the Academy C2 Mortality Work Group, said the Work Group has already done some preliminary work on this suggestion, but he said the proposed tiering was just to recognize that the volatility risk declines the bigger the block size is, so it makes sense to look at the aggregate mortality exposure as opposed to the break points for each of the categories. He said the Work Group plans to formally respond to this suggestion, along with other comments made previously, so it can be considered by the Working Group on a future call. Mr. Slutsker said he appreciates the desire to be able to tie out to amounts from the annual statement, but he also appreciates the appeal of option two and asked if something similar to option two was done with the adoption of the longevity risk charges. Paul Navratil (Academy), chair of the Academy C2 Longevity Risk Work Group, said longevity risk risk-based capital (RBC) treatment referred to reserves in the annual statement but on an in-part basis because not all products aggregated in a single line were in scope, and company records were needed. Mr. Barlow asked if there is a desire to go with option two and adjust the reporting in the annual statement. Mr. Bayerle asked which option the factors were based on. Mr. Trost said option two is offered because it is more of a principle-based approach, but it will require companies to populate the exposure for the different categories. He said the key aspect is the adjustment capacity, and option two involves more intensive categorization, which would require underlying calculations by companies. While option one is also based on company records, he said it is more explicit, as there is already a basis in the annual statement for the different categories.

With both options using company records, possible adjustments to the annual statement reporting, and option two perhaps being more involved, Mr. Barlow said it appears that there is a desire to move forward with one of the two options for 2022 RBC with reporting changes in 2023 to reduce the reliance on company records. He suggested considering longevity when thinking about the reporting changes to possibly lessen the reliance on company records for that RBC item as well. With a requirement to adopt the structural changes by the end of April for year-end 2022 RBC, he asked if both options offer the same ability to address issues. Mr. Trost said he believes the Working Group could adopt either option for the structure, and it will be a matter of modifying the definition of categories in the instructions. He said the Academy would like to address that, along with previous questions, and present it to the Working Group, but this could be done on a call prior to the end of April. Mr. Barlow asked if another exposure of the structural changes would be needed before the end of April. Dave Fleming (NAIC) said while there are some differences between the structural presentation of the two options, they are line-item descriptions, so he does not believe an additional exposure of the structure would be needed. He said there is time for the Working Group to have one call in April to hear additional input from the Academy and then another call to adopt the structural changes if two calls are needed. Mr. Barlow said the Working Group will schedule a call when the Academy has its updated information. Mr. Leung asked if the Academy will be able to provide the annual statement changes contemplated for both options. Mr. Trost said he believes the Academy could include that in its update, but he said he will discuss it with the Academy C2 Mortality Work Group.

## 2. Exposed the AVR Changes for Comment

Mr. Fleming reminded the Working Group that the changes being proposed to the asset valuation reserve (AVR) are a result of the changes to the RBC bond factors adopted for year-end 2021, and as was done with RBC changes done for tax reform, these changes are mechanical and retain the existing relationships. He said it starts with the AVR maximum reserve factor, which is to equal the after-tax RBC factor, and the AVR basic contribution and reserve objective factors are then percentages of the maximum reserve. He said these changes will be exposed for comment by the Blanks (E) Working Group at the Spring National Meeting and considered for year-end 2022 implementation. He said the Working Group does not need to adopt this proposal, but he suggested a short exposure by the Working Group to address any technical comments, and while none are expected, any comments received can be addressed as a modification to the Blanks (E) Working Group exposure. The Working Group agreed to expose the changes to the AVR (Attachment Four-A2) for a public comment period ending March 25.

Having no further business, the Life Risk-Based Capital (E) Working Group adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/2022 Spring National Meeting/Committee Meetings/Financial Condition (E) Committee/Capital Adequacy (E) Task Force/Life Risk-Based Capital (E) Working Group/LRBCWG 3-10-22 Minutes.docx



Brian Bayerle  
Senior Actuary

March 7, 2022

Mr. Philip Barlow  
Chair, NAIC Life Risk-Based Capital (E) Working Group (Life RBC)

Re: C-2 Mortality Structure Proposal

Dear Mr. Barlow:

The American Council of Life Insurers (ACLI) appreciates the opportunity to submit the following comments on the American Academy of Actuaries (the Academy) C-2 mortality structure proposal.

ACLI is supportive of the efforts to get updated C-2 mortality factors in place for yearend 2022 based on the best available information we currently possess. We have the following comments:

- Tiered Charges: Under the current structure, only one grouping of tiered charges exist so companies receive the benefit of aggregation in the factor as they move up to the lower charges associated with the 3 tiers of charges. Under the proposed framework, companies would not see such benefit as there are three grouping of tiered charges. Today a company begins to receive the full benefit of tiering above \$25B NAR; under the proposed structure a company may need to have \$75B NAR before receiving the full benefit of the lower charges.

We suggest a structure similar to what is done for disability income factors whereby the product category with the highest risk charges is considered first, followed by the product category with the next highest risk charges but recognize the amount of NAR in the first category before determining which tiered charge to use for the second product category. Subsequently the third product category considers the amount of NAR in the first two categories. For ULSG, there will be no change of their values for the tiers; "First 500 Million; Next 24,500 Million; Over 25,000 Million". For Term, there would be recognition of the amount of ULSG NAR before determining the first charge to use for Term NAR. Similarly, All Other Life would recognize the amounts for both ULSG and Term before determining its first charge. For example, a company with \$20B in ULSG, and \$10B in Term: ULSG would use the factors as proposed, Term would apply \$5B NAR using the Next 24,500 Million Term risk charge and \$5B NAR at the Over 25,000 Million Term risk charge. Other approaches, such as pro-rata allocation by NAAR, could be developed as well.

American Council of Life Insurers | 101 Constitution Ave, NW, Suite 700 | Washington, DC 20001-2133

The American Council of Life Insurers (ACLI) is the leading trade association driving public policy and advocacy on behalf of the life insurance industry. 90 million American families rely on the life insurance industry for financial protection and retirement security. ACLI's member companies are dedicated to protecting consumers' financial wellbeing through life insurance, annuities, retirement plans, long-term care insurance, disability income insurance, reinsurance, and dental, vision and other supplemental benefits. ACLI's 280 member companies represent 94 percent of industry assets in the United States.

acli.com

- Clarification of definitions: We would appreciate greater clarification of relevant category definitions, particularly as it relates to pre-PBR business. We would like to understand if the definitions being proposed in the RBC instructions are consistent with definitions underlying the Academy's analysis. We would suggest explicitly defining the terms (particularly UL with secondary guarantees) in the instructions, rather than referencing another source.
- Improved tie-out: We believe that for greater consistency, it would be beneficial to develop tie-outs to the Annual Statement. Given our assumption in the prior comment, we believe it would be beneficial to update another Annual Statement component so the reported net amount of risk values can tie to something explicitly (perhaps on the Analysis of Increase or Exhibit of Life). We suggest that given the timing this change be contemplated for 2023 Annual Statement reporting, with appropriate changes made to the C-2 mortality instructions for the 2023 RBC reporting.
- Support Option 1: ACLI supports the Academy recommendation of "Option 1". We believe this approach fosters greater transparency and avoids confusion of business shifting between categories.

We appreciate the consideration of our comments and look forward to discussing on a future call. Thank you.

Sincerely,



cc: Dave Fleming, NAIC

**NAIC BLANKS (E) WORKING GROUP**

**Blanks Agenda Item Submission Form**

<p style="text-align: right;">DATE: <u>3/10/2022</u></p> <p><b>CONTACT PERSON:</b> <u>Dave Fleming</u></p> <p><b>TELEPHONE:</b> <u>816-783-8121</u></p> <p><b>EMAIL ADDRESS:</b> <u>dfleming@naic.org</u></p> <p><b>ON BEHALF OF:</b> <u>Life Risk-Based Capital (E) Working Group</u></p> <p><b>NAME:</b> <u>Philip Barlow</u></p> <p><b>TITLE:</b> <u>Chair</u></p> <p><b>AFFILIATION:</b> <u>District of Columbia</u></p> <p><b>ADDRESS:</b> _____</p>	<p style="text-align: center;"><b><u>FOR NAIC USE ONLY</u></b></p> <p>Agenda Item # _____</p> <p>Year <u>2022</u></p> <p>Changes to Existing Reporting <input checked="" type="checkbox"/> [ X ]</p> <p>New Reporting Requirement <input type="checkbox"/> [ ]</p> <hr/> <p style="text-align: center;"><b><u>REVIEWED FOR ACCOUNTING PRACTICES AND PROCEDURES IMPACT</u></b></p> <p>No Impact <input type="checkbox"/> [ ]</p> <p>Modifies Required Disclosure <input type="checkbox"/> [ ]</p> <hr/> <p style="text-align: center;"><b><u>DISPOSITION</u></b></p> <p><input type="checkbox"/> [ ] Rejected For Public Comment</p> <p><input type="checkbox"/> [ ] Referred To Another NAIC Group</p> <p><input type="checkbox"/> [ ] Received For Public Comment</p> <p><input type="checkbox"/> [ ] Adopted Date _____</p> <p><input type="checkbox"/> [ ] Rejected Date _____</p> <p><input type="checkbox"/> [ ] Deferred Date _____</p> <p><input type="checkbox"/> [ ] Other (Specify) _____</p>
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**BLANK(S) TO WHICH PROPOSAL APPLIES**

- |   |   |  |
|---|---|--|
| <input checked="" type="checkbox"/> [ X ] ANNUAL STATEMENT                  | <input type="checkbox"/> [ ] INSTRUCTIONS             | <input type="checkbox"/> [ ] CROSSCHECKS |
| <input type="checkbox"/> [ ] QUARTERLY STATEMENT                            | <input checked="" type="checkbox"/> [ X ] BLANK       |  |
| <input checked="" type="checkbox"/> [ X ] Life, Accident & Health/Fraternal | <input type="checkbox"/> [ ] Separate Accounts        | <input type="checkbox"/> [ ] Title       |
| <input type="checkbox"/> [ ] Property/Casualty                              | <input type="checkbox"/> [ ] Protected Cell           | <input type="checkbox"/> [ ] Other _____ |
| <input type="checkbox"/> [ ] Health   | <input type="checkbox"/> [ ] Health (Life Supplement) |  |

Anticipated Effective Date: Annual 2022

**IDENTIFICATION OF ITEM(S) TO CHANGE**

Update the AVR factors to correspond with the adopted RBC factors for the expanded bond designation categories.

**REASON, JUSTIFICATION FOR AND/OR BENEFIT OF CHANGE\*\***

The AVR factors are linked to the after-tax RBC factors. The Life Risk-Based Capital (E) Working Group adopted changes to the life and fraternal RBC factors for the expanded NAIC Designation Categories for bonds for 2021 yearend reporting. The AVR factors will need to be adjusted where the RBC factors have been changed.

**NAIC STAFF COMMENTS**

Comment on Effective Reporting Date: \_\_\_\_\_

Other Comments:

A worksheet showing comparison of AVR and after-tax RBC factors for 2017, the changes made for the 2018 tax changes and the AVR factors being proposed for 2022 is posted at the Life Risk-Based Capital (E) Working Group website.

The AVR maximum reserve factors were updated to reflect the existing relationship to the RBC after-tax factors. The AVR basic contribution and reserve object factors were updated to reflect the existing relationships to the maximum reserve factors.

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**\*\* This section must be completed on all forms.**

**Revised 7/18/2018**

ANNUAL STATEMENT FOR THE YEAR 2022~~1~~ OF THE

**ASSET VALUATION RESERVE**

	Default Component			Equity Component			7 Total Amount (Cols. 3 + 6)
	1 Other Than Mortgage Loans	2 Mortgage Loans	3 Total (Cols. 1 + 2)	4 Common Stock	5 Real Estate and Other Invested Assets	6 Total (Cols. 4 + 5)	
1. Reserve as of December 31, prior year .....	.....	.....	.....	.....	.....	.....	.....
2. Realized capital gains/(losses) net of taxes -General Account .....	.....	.....	.....	.....	.....	.....	.....
3. Realized capital gains/(losses) net of taxes-Separate Accounts .....	.....	.....	.....	.....	.....	.....	.....
4. Unrealized capital gains/(losses) net of deferred taxes-General Account .....	.....	.....	.....	.....	.....	.....	.....
5. Unrealized capital gains/(losses) net of deferred taxes-Separate Accounts .....	.....	.....	.....	.....	.....	.....	.....
6. Capital gains credited/(losses charged) to contract benefits, payments or reserves .....	.....	.....	.....	.....	.....	.....	.....
7. Basic contribution.....	.....	.....	.....	.....	.....	.....	.....
8. Accumulated balances (Lines 1 through 5 - 6 + 7).....	.....	.....	.....	.....	.....	.....	.....
9. Maximum reserve .....	.....	.....	.....	.....	.....	.....	.....
10. Reserve objective.....	.....	.....	.....	.....	.....	.....	.....
11. 20% of (Line 10 - Line 8).....	.....	.....	.....	.....	.....	.....	.....
12. Balance before transfers (Lines 8 + 11) .....	.....	.....	.....	.....	.....	.....	.....
13. Transfers .....	.....	.....	.....	.....	.....	.....	.....
14. Voluntary contribution .....	.....	.....	.....	.....	.....	.....	.....
15. Adjustment down to maximum/up to zero.....	.....	.....	.....	.....	.....	.....	.....
16. Reserve as of December 31, current year (Lines 12 + 13 + 14 + 15)	.....	.....	.....	.....	.....	.....	.....

ANNUAL STATEMENT FOR THE YEAR 2022+ OF THE

**ASSET VALUATION RESERVE  
 BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS  
 DEFAULT COMPONENT**

Line Number	NAIC Designation	Description	1 Book/ Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1+2+3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4x5)	7 Factor	8 Amount (Cols. 4x7)	9 Factor	10 Amount (Cols. 4x9)
LONG-TERM BONDS												
1		Exempt Obligations.....		XXX	XXX		0.0000		0.0000		0.0000	
2.1	1	NAIC Designation Category 1.A.....		XXX	XXX		0.00050.0002		0.00160.0007		0.00330.0013	
2.2	1	NAIC Designation Category 1.B.....		XXX	XXX		0.00050.0004		0.00160.0011		0.00330.0023	
2.3	1	NAIC Designation Category 1.C.....		XXX	XXX		0.00050.0006		0.00160.0018		0.00330.0035	
2.4	1	NAIC Designation Category 1.D.....		XXX	XXX		0.00050.0007		0.00160.0022		0.00330.0044	
2.5	1	NAIC Designation Category 1.E.....		XXX	XXX		0.00050.0009		0.00160.0027		0.00330.0055	
2.6	1	NAIC Designation Category 1.F.....		XXX	XXX		0.00050.0011		0.00160.0034		0.00330.0068	
2.7	1	NAIC Designation Category 1.G.....		XXX	XXX		0.00050.0014		0.00160.0042		0.00330.0085	
2.8		Subtotal NAIC 1 (2.1+2.2+2.3+2.4+2.5+2.6+2.7).....		XXX	XXX		XXX		XXX		XXX	
3.1	2	NAIC Designation Category 2.A.....		XXX	XXX		0.0021		0.00640.0063		0.01060.0105	
3.2	2	NAIC Designation Category 2.B.....		XXX	XXX		0.0021+0.0025		0.00640.0076		0.01060.0127	
3.3	2	NAIC Designation Category 2.C.....		XXX	XXX		0.0021+0.0036		0.00640.0108		0.01060.0180	
3.4		Subtotal NAIC 2 (3.1+3.2+3.3).....		XXX	XXX		XXX		XXX		XXX	
4.1	3	NAIC Designation Category 3.A.....		XXX	XXX		0.00990.0069		0.02630.0183		0.03760.0262	
4.2	3	NAIC Designation Category 3.B.....		XXX	XXX		0.0099		0.02630.0264		0.03760.0377	
4.3	3	NAIC Designation Category 3.C.....		XXX	XXX		0.00990.0131		0.02630.0350		0.03760.0500	
4.4		Subtotal NAIC 3 (4.1+4.2+4.3).....		XXX	XXX		XXX		XXX		XXX	
5.1	4	NAIC Designation Category 4.A.....		XXX	XXX		0.02450.0184		0.05720.0430		0.08170.0615	
5.2	4	NAIC Designation Category 4.B.....		XXX	XXX		0.02450.0238		0.05720.0555		0.08170.0793	
5.3	4	NAIC Designation Category 4.C.....		XXX	XXX		0.02450.0310		0.05720.0724		0.08170.1034	
5.4		Subtotal NAIC 4 (5.1+5.2+5.3).....		XXX	XXX		XXX		XXX		XXX	
6.1	5	NAIC Designation Category 5.A.....		XXX	XXX		0.06300.0472		0.11280.846		0.18800.1410	
6.2	5	NAIC Designation Category 5.B.....		XXX	XXX		0.06300.0663		0.11280.1188		0.18800.1980	
6.3	5	NAIC Designation Category 5.C.....		XXX	XXX		0.06300.0836		0.11280.1498		0.18800.2496	
6.4		Subtotal NAIC 5 (6.1+6.2+6.3).....		XXX	XXX		XXX		XXX		XXX	
7	6	NAIC 6.....		XXX	XXX		0.0000		0.2370		0.2370	
8		Total Unrated Multi-Class Securities Acquired by Conversion.....		XXX	XXX		XXX		XXX		XXX	
9		Total Long-Term Bonds (Sum of Lines 1+2.8+3.4+4.4+5.4+6.4+7+8).....		XXX	XXX		XXX		XXX		XXX	
PREFERRED STOCKS												
10	1	Highest Quality.....		XXX	XXX		0.0005		0.0016		0.0033	
11	2	High Quality.....		XXX	XXX		0.0021		0.0064		0.0106	
12	3	Medium Quality.....		XXX	XXX		0.0099		0.0263		0.0376	
13	4	Low Quality.....		XXX	XXX		0.0245		0.0572		0.0817	
14	5	Lower Quality.....		XXX	XXX		0.0630		0.1128		0.1880	
15	6	In or Near Default.....		XXX	XXX		0.0000		0.2370		0.2370	
16		Affiliated Life with AVR.....		XXX	XXX		0.0000		0.0000		0.0000	
17		Total Preferred Stocks (Sum of Lines 10 through 16).....		XXX	XXX		XXX		XXX		XXX	

ANNUAL STATEMENT FOR THE YEAR 2022+ OF THE

**ASSET VALUATION RESERVE (Continued)**  
**BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS**  
**DEFAULT COMPONENT**

Line Number	NAIC Designation	Description	1 Book/ Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1+2+3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4x5)	7 Factor	8 Amount (Cols. 4x7)	9 Factor	10 Amount (Cols. 4x9)
SHORT-TERM BONDS												
18		Exempt Obligations.....		XXX	XXX		0.0000		0.0000		0.0000	
19.1	1	NAIC Designation Category 1.A.....		XXX	XXX		0.00050.0002		0.00160.0007		0.00330.0013	
19.2	1	NAIC Designation Category 1.B.....		XXX	XXX		0.00050.0004		0.00160.0011		0.00330.0023	
19.3	1	NAIC Designation Category 1.C.....		XXX	XXX		0.00050.0006		0.00160.0018		0.00330.0035	
19.4	1	NAIC Designation Category 1.D.....		XXX	XXX		0.00050.0007		0.00160.0022		0.00330.0044	
19.5	1	NAIC Designation Category 1.E.....		XXX	XXX		0.00050.0009		0.00160.0027		0.00330.0055	
19.6	1	NAIC Designation Category 1.F.....		XXX	XXX		0.00050.0011		0.00160.0034		0.00330.0068	
19.7	1	NAIC Designation Category 1.G.....		XXX	XXX		0.00050.0014		0.00160.0042		0.00330.0085	
19.8		Subtotal NAIC 1 (19.1+19.2+19.3+19.4+19.5+19.6+19.7).....		XXX	XXX		XXX		XXX		XXX	
20.1	2	NAIC Designation Category 2.A.....		XXX	XXX		0.0021		0.00640.0063		0.01060.0105	
20.2	2	NAIC Designation Category 2.B.....		XXX	XXX		0.00210.0025		0.00640.0076		0.01060.0127	
20.3	2	NAIC Designation Category 2.C.....		XXX	XXX		0.00210.0036		0.00640.0108		0.01060.0180	
20.4		Subtotal NAIC 2 (20.1+20.2+20.3).....		XXX	XXX		XXX		XXX		XXX	
21.1	3	NAIC Designation Category 3.A.....		XXX	XXX		0.00990.0069		0.02630.0183		0.03760.0262	
21.2	3	NAIC Designation Category 3.B.....		XXX	XXX		0.0099		0.02630.0064		0.03760.0377	
21.3	3	NAIC Designation Category 3.C.....		XXX	XXX		0.00990.0131		0.02630.0350		0.03760.0500	
21.4		Subtotal NAIC 3 (21.1+21.2+21.3).....		XXX	XXX		XXX		XXX		XXX	
22.1	4	NAIC Designation Category 4.A.....		XXX	XXX		0.02450.0184		0.05720.0430		0.08170.0615	
22.2	4	NAIC Designation Category 4.B.....		XXX	XXX		0.02450.0238		0.05720.0555		0.08170.0793	
22.3	4	NAIC Designation Category 4.C.....		XXX	XXX		0.02450.0310		0.05720.0724		0.08170.1034	
22.4		Subtotal NAIC 4 (22.1+22.2+22.3).....		XXX	XXX		XXX		XXX		XXX	
23.1	5	NAIC Designation Category 5.A.....		XXX	XXX		0.06300.0472		0.11280.0846		0.18800.1410	
23.2	5	NAIC Designation Category 5.B.....		XXX	XXX		0.06300.0630		0.11280.1188		0.18800.1980	
23.3	5	NAIC Designation Category 5.C.....		XXX	XXX		0.06300.0836		0.11280.1498		0.18800.2496	
23.4		Subtotal NAIC 5 (23.1+23.2+23.3).....		XXX	XXX		XXX		XXX		XXX	
24	6	NAIC 6.....		XXX	XXX		0.0000		0.2370		0.2370	
25		Total Short-Term Bonds (18+19.8+20.4+21.4+22.4+23.4+24).....		XXX	XXX		XXX		XXX		XXX	
DERIVATIVE INSTRUMENTS												
26		Exchange Traded.....		XXX	XXX		0.0005		0.0016		0.0033	
27	1	Highest Quality.....		XXX	XXX		0.0005		0.0016		0.0033	
28	2	High Quality.....		XXX	XXX		0.0021		0.0064		0.0106	
29	3	Medium Quality.....		XXX	XXX		0.0099		0.0263		0.0376	
30	4	Low Quality.....		XXX	XXX		0.0245		0.0572		0.0817	
31	5	Lower Quality.....		XXX	XXX		0.0630		0.1128		0.1880	
32	6	In or Near Default.....		XXX	XXX		0.0000		0.2370		0.2370	
33		Total Derivative Instruments.....		XXX	XXX		XXX		XXX		XXX	
34		Total (Lines 9+ 17+ 25+ 33).....		XXX	XXX		XXX		XXX		XXX	

**ASSET VALUATION RESERVE (Continued)**  
**BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS**  
**DEFAULT COMPONENT**

Line Number	NAIC Designation	Description	1 Book/ Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1+2+3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4x5)	7 Factor	8 Amount (Cols. 4x7)	9 Factor	10 Amount (Cols. 4x9)
MORTGAGE LOANS												
In Good Standing:												
35		Farm Mortgages – CM1 – Highest Quality .....			XXX		0.0011		0.0057		0.0074	
36		Farm Mortgages – CM2 – High Quality .....			XXX		0.0040		0.0114		0.0149	
37		Farm Mortgages – CM3 – Medium Quality .....			XXX		0.0069		0.0200		0.0257	
38		Farm Mortgages – CM4 – Low Medium Quality .....			XXX		0.0120		0.0343		0.0428	
39		Farm Mortgages – CM5 – Low Quality .....			XXX		0.0183		0.0486		0.0628	
40		Residential Mortgages – Insured or Guaranteed .....			XXX		0.0003		0.0007		0.0011	
41		Residential Mortgages – All Other .....			XXX		0.0015		0.0034		0.0046	
42		Commercial Mortgages – Insured or Guaranteed .....			XXX		0.0003		0.0007		0.0011	
43		Commercial Mortgages – All Other – CM1 – Highest Quality .....			XXX		0.0011		0.0057		0.0074	
44		Commercial Mortgages – All Other – CM2 – High Quality .....			XXX		0.0040		0.0114		0.0149	
45		Commercial Mortgages – All Other – CM3 – Medium Quality .....			XXX		0.0069		0.0200		0.0257	
46		Commercial Mortgages – All Other – CM4 – Low Medium Quality .....			XXX		0.0120		0.0343		0.0428	
47		Commercial Mortgages – All Other – CM5 – Low Quality .....			XXX		0.0183		0.0486		0.0628	
Overdue, Not in Process:												
48		Farm Mortgages .....			XXX		0.0480		0.0868		0.1371	
49		Residential Mortgages – Insured or Guaranteed .....			XXX		0.0006		0.0014		0.0023	
50		Residential Mortgages - All Other .....			XXX		0.0029		0.0066		0.0103	
51		Commercial Mortgages - Insured or Guaranteed .....			XXX		0.0006		0.0014		0.0023	
52		Commercial Mortgages - All Other .....			XXX		0.0480		0.0868		0.1371	
In Process of Foreclosure:												
53		Farm Mortgages .....			XXX		0.0000		0.1942		0.1942	
54		Residential Mortgages - Insured or Guaranteed .....			XXX		0.0000		0.0046		0.0046	
55		Residential Mortgages - All Other .....			XXX		0.0000		0.0149		0.0149	
56		Commercial Mortgages - Insured or Guaranteed .....			XXX		0.0000		0.0046		0.0046	
57		Commercial Mortgages - All Other .....			XXX		0.0000		0.1942		0.1942	
58		Total Schedule B Mortgages (Sum of Lines 35 through 57) .....			XXX		XXX		XXX		XXX	
59		Schedule DA Mortgages .....			XXX		0.0034		0.0114		0.0149	
60		Total Mortgage Loans on Real Estate (Lines 58 + 59) .....			XXX		XXX		XXX		XXX	

ANNUAL STATEMENT FOR THE YEAR 2022+ OF THE

**ASSET VALUATION RESERVE  
 BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS  
 EQUITY AND OTHER INVESTED ASSET COMPONENT**

Line Number	NAIC Designation	Description	1 Book/ Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1+2+3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4x5)	7 Factor	8 Amount (Cols. 4x7)	9 Factor	10 Amount (Cols. 4x9)
<b>COMMON STOCK</b>												
1		Unaffiliated Public.....		XXX	XXX		0.0000		0.1580 (a)		0.1580 (a)	
2		Unaffiliated Private.....		XXX	XXX		0.0000		0.1945		0.1945	
3		Federal Home Loan Bank.....		XXX	XXX		0.0000		0.0061		0.0097	
4		Affiliated Life with AVR .....		XXX	XXX		0.0000		0.0000		0.0000	
Affiliated Investment Subsidiary:												
5		Fixed Income Exempt Obligations .....					XXX		XXX		XXX	
6		Fixed Income Highest Quality .....					XXX		XXX		XXX	
7		Fixed Income High Quality .....					XXX		XXX		XXX	
8		Fixed Income Medium Quality .....					XXX		XXX		XXX	
9		Fixed Income Low Quality .....					XXX		XXX		XXX	
10		Fixed Income Lower Quality .....					XXX		XXX		XXX	
11		Fixed Income In or Near Default .....					XXX		XXX		XXX	
12		Unaffiliated Common Stock Public.....					0.0000		0.1580 (a)		0.1580 (a)	
13		Unaffiliated Common Stock Private.....					0.0000		0.1945		0.1945	
14		Real Estate.....					(b)		(b)		(b)	
15		Affiliated-Certain Other (See SVO Purposes & Procedures Manual).....		XXX	XXX		0.0000		0.1580		0.1580	
16		Affiliated - All Other.....		XXX	XXX		0.0000		0.1945		0.1945	
17		Total Common Stock (Sum of Lines 1 through 16)					XXX		XXX		XXX	
<b>REAL ESTATE</b>												
18		Home Office Property (General Account only).....					0.0000		0.0912		0.0912	
19		Investment Properties .....					0.0000		0.0912		0.0912	
20		Properties Acquired in Satisfaction of Debt.....					0.0000		0.1337		0.1337	
21		Total Real Estate (Sum of Lines 18 through 20)					XXX		XXX		XXX	
<b>OTHER INVESTED ASSETS INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF BONDS</b>												
22		Exempt Obligations .....		XXX	XXX		0.0000		0.0000		0.0000	
23	1	Highest Quality.....		XXX	XXX		0.0005		0.0016		0.0033	
24	2	High Quality .....		XXX	XXX		0.0021		0.0064		0.0106	
25	3	Medium Quality.....		XXX	XXX		0.0099		0.0263		0.0376	
26	4	Low Quality.....		XXX	XXX		0.0245		0.0572		0.0817	
27	5	Lower Quality.....		XXX	XXX		0.0630		0.1128		0.1880	
28	6	In or Near Default.....		XXX	XXX		0.0000		0.2370		0.2370	
29		Total with Bond Characteristics (Sum of Lines 22 through 28)		XXX	XXX		XXX		XXX		XXX	

ANNUAL STATEMENT FOR THE YEAR 2022+ OF THE

**ASSET VALUATION RESERVE (Continued)**  
**BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS**  
**EQUITY AND OTHER INVESTED ASSET COMPONENT**

Line Number	NAIC Designation	Description	1 Book/ Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1+2+3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols.4x5)	7 Factor	8 Amount (Cols. 4x7)	9 Factor	10 Amount (Cols.4x9)
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF PREFERRED STOCKS												
30	1	Highest Quality .....		XXX	XXX		0.0005		0.0016		0.0033	
31	2	High Quality .....		XXX	XXX		0.0021		0.0064		0.0106	
32	3	Medium Quality .....		XXX	XXX		0.0099		0.0263		0.0376	
33	4	Low Quality .....		XXX	XXX		0.0245		0.0572		0.0817	
34	5	Lower Quality .....		XXX	XXX		0.0630		0.1128		0.1880	
35	6	In or Near Default .....		XXX	XXX		0.0000		0.2370		0.2370	
36		Affiliated Life with AVR .....		XXX	XXX		0.0000		0.0000		0.0000	
37		Total with Preferred Stock Characteristics (Sum of Lines 30 through 36)		XXX	XXX		XXX		XXX		XXX	
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF MORTGAGE LOANS												
In Good Standing Affiliated:												
38		Mortgages – CM1 – Highest Quality .....			XXX		0.0011		0.0057		0.0074	
39		Mortgages – CM2 – High Quality .....			XXX		0.0040		0.0114		0.0149	
40		Mortgages – CM3 – Medium Quality .....			XXX		0.0069		0.0200		0.0257	
41		Mortgages – CM4 – Low Medium Quality .....			XXX		0.0120		0.0343		0.0428	
42		Mortgages – CM5 – Low Quality .....			XXX		0.0183		0.0486		0.0628	
43		Residential Mortgages – Insured or Guaranteed .....			XXX		0.0003		0.0007		0.0011	
44		Residential Mortgages – All Other .....		XXX	XXX		0.0015		0.0034		0.0046	
45		Commercial Mortgages – Insured or Guaranteed .....			XXX		0.0003		0.0007		0.0011	
Overdue, Not in Process Affiliated:												
46		Farm Mortgages .....			XXX		0.0480		0.0868		0.1371	
47		Residential Mortgages – Insured or Guaranteed .....			XXX		0.0006		0.0014		0.0023	
48		Residential Mortgages – All Other .....			XXX		0.0029		0.0066		0.0103	
49		Commercial Mortgages – Insured or Guaranteed .....			XXX		0.0006		0.0014		0.0023	
50		Commercial Mortgages – All Other .....			XXX		0.0480		0.0868		0.1371	
In Process of Foreclosure Affiliated:												
51		Farm Mortgages .....			XXX		0.0000		0.1942		0.1942	
52		Residential Mortgages – Insured or Guaranteed .....			XXX		0.0000		0.0046		0.0046	
53		Residential Mortgages – All Other .....			XXX		0.0000		0.0149		0.0149	
54		Commercial Mortgages – Insured or Guaranteed .....			XXX		0.0000		0.0046		0.0046	
55		Commercial Mortgages – All Other .....			XXX		0.0000		0.1942		0.1942	
56		Total Affiliated (Sum of Lines 38 through 55) .....			XXX		XXX		XXX		XXX	
57		Unaffiliated – In Good Standing With Covenants .....			XXX		(c)		(c)		(c)	
		Unaffiliated – In Good Standing Defeased With Government Securities .....			XXX							
58		Unaffiliated – In Good Standing Primarily Senior .....			XXX		0.0011		0.0057		0.0074	
59		Unaffiliated – In Good Standing All Other .....			XXX		0.0040		0.0114		0.0149	
60		Unaffiliated – Overdue, Not in Process .....			XXX		0.0069		0.0200		0.0257	
61		Unaffiliated – In Process of Foreclosure .....			XXX		0.0480		0.0868		0.1371	
62		Unaffiliated – In Process of Foreclosure .....			XXX		0.0000		0.1942		0.1942	
63		Total Unaffiliated (Sum of Lines 57 through 62) .....			XXX		XXX		XXX		XXX	
64		Total with Mortgage Loan Characteristics (Lines 56 + 63)			XXX		XXX		XXX		XXX	

ANNUAL STATEMENT FOR THE YEAR 2022+ OF THE

**ASSET VALUATION RESERVE (Continued)**  
**BASIC CONTRIBUTION, RESERVE OBJECTIVE AND MAXIMUM RESERVE CALCULATIONS**  
**EQUITY AND OTHER INVESTED ASSET COMPONENT**

Line Number	NAIC Designation	Description	1 Book/ Adjusted Carrying Value	2 Reclassify Related Party Encumbrances	3 Add Third Party Encumbrances	4 Balance for AVR Reserve Calculations (Cols. 1+2+3)	Basic Contribution		Reserve Objective		Maximum Reserve	
							5 Factor	6 Amount (Cols. 4x5)	7 Factor	8 Amount (Cols. 4x7)	9 Factor	10 Amount (Cols. 4x9)
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF COMMON STOCK												
65		Unaffiliated Public .....		XXX	XXX		0.0000		0.1580(a)		0.1580(a)	
66		Unaffiliated Private .....		XXX	XXX		0.0000		0.1945		0.1945	
67		Affiliated Life with AVR .....		XXX	XXX		0.0000		0.0000		0.0000	
68		Affiliated Certain Other (See SVO Purposes & Procedures Manual) .....		XXX	XXX		0.0000		0.1580		0.1580	
69		Affiliated Other - All Other .....		XXX	XXX		0.0000		0.1945		0.1945	
70		Total with Common Stock Characteristics (Sum of Lines 65 through 69)		XXX	XXX		XXX		XXX		XXX	
INVESTMENTS WITH THE UNDERLYING CHARACTERISTICS OF REAL ESTATE												
71		Home Office Property (General Account only) .....					0.0000		0.0912		0.0912	
72		Investment Properties .....					0.0000		0.0912		0.0912	
73		Properties Acquired in Satisfaction of Debt .....					0.0000		0.1337		0.1337	
74		Total with Real Estate Characteristics (Sum of Lines 71 through 73)					XXX		XXX		XXX	
LOW INCOME HOUSING TAX CREDIT INVESTMENTS												
75		Guaranteed Federal Low-Income Housing Tax Credit .....					0.0003		0.0006		0.0010	
76		Non-guaranteed Federal Low-Income Housing Tax Credit .....					0.0063		0.0120		0.0190	
77		Guaranteed State Low Income Housing Tax Credit .....					0.0003		0.0006		0.0010	
78		Non-guaranteed State Low Income Housing Tax Credit .....					0.0063		0.0120		0.0190	
79		All Other Low-Income Housing Tax Credit .....					0.0273		0.0600		0.0975	
80		Total LIHTC (Sum of Lines 75 through 79)					XXX		XXX		XXX	
ALL OTHER INVESTMENTS												
81		NAIC 1 Working Capital Finance Investments .....		XXX			0.0000		0.0042		0.0042	
82		NAIC 2 Working Capital Finance Investments .....		XXX			0.0000		0.0137		0.0137	
83		Other Invested Assets - Schedule BA .....		XXX			0.0000		0.1580		0.1580	
84		Other Short-Term Invested Assets - Schedule DA .....		XXX			0.0000		0.1580		0.1580	
85		Total All Other (Sum of Lines 81, 82, 83 and 84) .....		XXX			XXX		XXX		XXX	
86		Total Other Invested Assets - Schedules BA & DA (Sum of Lines 29, 37, 64, 70, 74, 80 and 85)					XXX		XXX		XXX	

- (a) Times the company's weighted average portfolio beta (Minimum .1215, Maximum .2431).
- (b) Determined using same factors and breakdowns used for directly owned real estate.
- (c) This will be the factor associated with the risk category determined in the company generated worksheet.





Draft: 3/22/22

Life Risk-Based Capital (E) Working Group  
Virtual Meeting  
January 20, 2022

The Life Risk-Based Capital (E) Working Group of the Capital Adequacy (E) Task Force met Jan. 20, 2022. The following Working Group members participated: Philip Barlow, Chair (DC); Jennifer Li (AL); Thomas Reedy (CA); Wanchin Chou (CT); Sean Collins (FL); Mike Yanacheak and Carrie Mears (IA); Vincent Tsang (IL); Ben Slutsker (MN); William Leung (MO); Derek Wallman (NE); Seong-min Eom (NJ); Bill Carmello (NY); Mike Boerner and Rachel Hemphill (TX); and Tomasz Serbinowski (UT).

1. Discussed Comments Received on the Academy C2 Mortality Work Group Recommendation

Brian Bayerle (American Council of Life Insurers—ACLI) presented the ACLI's comment letter (Attachment Four-B1) and said the ACLI is generally supportive of an update to the mortality factors. He highlighted the ACLI's desire for more analysis on the risk exposure periods and the ability for companies to adjust the mortality rate for emerging experience, along with greater analysis on the margins. Mr. Slutsker presented Minnesota's comments (Attachment Four-B2) highlighting a request to the American Academy of Actuaries (Academy) to reflect additional uncertainty on future mortality in light of the COVID-19 pandemic. He also noted the Academy's current proposed category breakdown and Minnesota's recommendation to have the categorization done based on guarantee duration similar to how valuation rates are assigned in the *Standard Valuation Law* (#820). Additionally, he noted Minnesota's suggestion to determine the C-2 mortality component based on the underlying guarantee duration in the policy with appropriate adjustments for certain types of policies. Mr. Barlow said he believes the categorization is a topic that will require more discussion, but his hope is that it can align with how information is presented in the annual statement to make it as objective as possible. Chris Trost (Academy) said there is always the challenge of relying on what is available in the annual statement versus more of a principle-based approach and having companies put products into specific categories based on their analysis. He said the reason the Academy chose the categories in the recommendation is they most closely follow the information in the annual statement and for principle-based reserves as well. While acknowledging that there will always be some imperfections, he said the Academy believes the higher level of differentiation is appropriate. He also commented that with respect to questions about pandemics, and specifically COVID-19, the Work Group added a component for an unknown sustained type of risk establishing a 2.5% annual probability that such an event can occur with a 5% severity so mortality rates would be 5% higher, and that would last for either the exposure period or for 10 years. He said the Academy could provide additional sensitivities around those assumptions to show the impact on factors. Mr. Carmello spoke to New York's comments (Attachment Four-B3) and highlighted New York's focus on the current pandemic and its concern that it may not be reflected sufficiently in the development of the proposed factors. He said he supports having more sensitivity tests included for the Working Group's consideration. To New York's comment on mortality improvement, Mr. Trost said the Academy could also provide sensitivities on that as well.

Mr. Barlow said it appears the two primary issues are the factors and categorization, and he asked if changes to the categorization would be structural. Dave Fleming (NAIC) said the categorization could change the structural presentation, but that presentation can be modified as a result of comments received from the exposure. He noted that the instructions, which include the factors, are included for information only, are not final, and are subject to a later exposure deadline. The Working Group agreed to expose the Academy's proposed structural changes (Attachment Four-B4) for a 45-day public comment period.

2. Discussed the Academy's Comment Letter on Longevity Reinsurance

Mr. Barlow thanked Ms. Eom for volunteering to chair the Longevity Risk (E/A) Subgroup and reminded Working Group members that the Subgroup's work is pending some of the work on the reserve side. Paul Navratil (Academy), chair of the Academy C2 Longevity Risk Work Group, said the purpose of the Academy's comment letter (Attachment Four-B5) is to continue the conversation, knowing that longevity reinsurance remains an item to be addressed by the Working Group, and to make the connection with VM-22, Statutory Maximum Valuation Interest Rates for Income Annuities, and consistency between the reserve work and what is ultimately done for capital.

3. Discussed the AVR and Bond Factor Changes

Mr. Barlow reminded the Working Group that changes to the asset valuation reserve (AVR) need to be made to correspond to the bond factor changes. Mr. Fleming said, as was done with the changes to AVR related to the risk-based capital (RBC) changes for tax reform, these changes are largely mechanical and retain the existing relationships. He said these are changes that will need to be adopted by the Blanks (E) Working Group, and he has been working with the ACLI to draft these to meet the needed timeline for year-end 2022 implementation.

Having no further business, the Life Risk-Based Capital (E) Working Group adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/2022 Spring National Meeting/Committee Meetings/Financial Condition (E) Committee/Capital Adequacy (E) Task Force/Life Risk-Based Capital (E) Working Group/LRBCWG 1-20-22 Minutes.docx



Brian Bayerle  
Senior Actuary

January 11, 2022

Mr. Philip Barlow  
Chair, NAIC Life Risk-Based Capital (E) Working Group (Life RBC)

Re: C-2 Mortality Factor Proposal

Dear Mr. Barlow:

The American Council of Life Insurers (ACLI) appreciates the opportunity to submit the following comments on the American Academy of Actuaries (the Academy) C-2 mortality factor proposal.

ACLI appreciates the diligent efforts of the Academy in the development of these factors, and the thoughtful questioning and efforts from Life RBC working group members. ACLI is generally supportive of the initiative to update the C-2 mortality factors. We believe the structural changes to the methodology to determine the factors makes sense, and particularly updating the mortality assumptions underlying the factors is appropriate. However, ACLI would like more analysis and justification for the assumptions regarding the risk exposure periods and the ability of companies to adjust mortality rates for emerging experience because we are unsure as to the consistency of these assumptions across product types. In addition, ACLI would support greater analysis of the margins. We note that both the proposed factors include a 5% margin, while both pre-PBR and post-PBR reserves likely include margins that significantly exceed this level.

Additionally, ACLI is supportive of Life RBC's goal of more frequent updates to the mortality factors. ACLI believes the frequency of updates should reflect the greater percentage of inforce on a PBR-basis over time, greater availability of relevant data, and evolving reserves and practices .

We appreciate the consideration of our comments and look forward to discussing on a future call. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read 'B Bayerle', is written in a cursive style.

cc: Dave Fleming, NAIC

American Council of Life Insurers | 101 Constitution Ave, NW, Suite 700 | Washington, DC 20001-2133

The American Council of Life Insurers (ACLI) is the leading trade association driving public policy and advocacy on behalf of the life insurance industry. 90 million American families rely on the life insurance industry for financial protection and retirement security. ACLI's member companies are dedicated to protecting consumers' financial wellbeing through life insurance, annuities, retirement plans, long-term care insurance, disability income insurance, reinsurance, and dental, vision and other supplemental benefits. ACLI's 280 member companies represent 94 percent of industry assets in the United States.

acli.com



**Date:** 01/07/2022  
**To:** Phillip Barlow, Chair of the Life Risk-Based Capital (E) Working Group  
**Subject:** Life C-2 Mortality Factor Update

Thank you for the opportunity to provide comments on the Life C-2 Mortality Factor proposal. We applaud the Academy C-2 Mortality Work Group's efforts, and think this is a great analysis. There are a few comments we would like to make to consider as potential refinements to the proposed factor updates, which are discussed below.

### **Catastrophe Risk Component**

The impact of updating the catastrophic component of the C-2 risk in the proposal, inclusive of removing the HIV scenarios, is a large decrease to the C-2 factors (-35% for large inforce size and -20% for small inforce size). However, the Academy C-2 Mortality Work Group mentioned on a prior NAIC Life RBC Working Group call that, due to timing, the analysis does not include impacts due to the emergence of COVID-19. Given that we are in the midst of a two-year pandemic and that C-2 factors are not frequently revised, we believe it would be prudent to reflect the current environment in the update.

Therefore, we would like to ask whether the Academy C-2 Mortality Working Group would be open considering an adjustment to reflect additional uncertainty of future mortality in light of COVID-19. Such uncertainty may reflect the impact of "long COVID", additional variants, or an increased likelihood of future pandemics. Given the status of the proposal, we acknowledge it may be challenging to come up with a sophisticated approach at this point, so we would be open to exploring any higher-level adjustments, such as employing sensitivity tests to pandemic shock probabilities and distribution of severities to determine a COVID-19 adjustment. In addition, one of the sensitivity tests in the report shows a small impact from increasing the probability of an unknown sustained catastrophe from 2.5% probability to 5.0% probability, but it may be worth considering higher probabilities or severities for this component in coming up for an adjustment to COVID-19 (to reflect the risk of future respiratory issues or long COVID), in addition to sensitivity testing pandemic risk.

### **Product Categories**

The Academy's proposal to differentiate risks based on product duration is a welcome development, which permits companies to more accurately reflect C-2 mortality risk for their mix of inforce business. The current proposal breakdown categories into "ULSG", "Term", and "Other" with exposure periods of 20 years, 10 years, and 5 years respectively. Although the simplicity of this approach for differentiating product groups is consistent with the overall RBC framework, it also creates some unintuitive results:

- **ULSG Categorization** – The proposal contains separate charges for "ULSG" vs. "other", where "other" is about half the ULSG charge. However, "ULSG" is defined at issue as a secondary guarantee less than or equal to 5 years. This results in a universal life policy with a 5-year secondary guarantee having half the

charge of a universal life with a 6-year secondary guarantee. In contrast, a 40-year secondary guarantee will have the same mortality risk charge as a 6-year secondary guarantee.

- **Whole Life Categorization** – Similar to the ULSG observation described above, a non-participating whole life with low funding values would also get half the charge of universal life with a 6-year secondary guarantee. This is due to the underlying assumption that the non-participating whole life mortality risk is based on a 5-year exposure period, which is shorter than the average contract life of a whole life policy.
- **Term Categorization** – The term category is based on a 10-year liability exposure period. Therefore, the C-2 term charge (less than ULSG) might work for 10-year level term to 20-year level term, but the ULSG charge may be more appropriate for reflecting the associated risk for a 30-year level term.

As an alternative, we recommend differentiating the assignment to the 5, 10, and 20-year exposure period factors based on the guarantee duration, similar to how valuation rates are assigned in the Standard Valuation Law:

Guarantee Duration (Years)	Exposure Period
10 or less	5 Years
More than 10, but not more than 20	10 Years
More than 20	20 Years

We believe this modification would maintain simplicity (as this split is already required for valuation purposes), while also avoiding some of the unintuitive impacts in the original proposal described above.

In addition, we would recommend the NAIC Life RBC Working Group’s consideration of using an exposure period of 30 years for even longer guarantees, as the Academy C-2 Mortality Working Group has already calculated the factors associated with 30 years, which is disclosed in the exposed report.

### **Experience Pass-Through**

One challenge with proposing factor differentiation, whether by other product line (as initially proposed) or guarantee duration (as described in this letter), is how to reflect the reduction in mortality risk for policies that are able to pass mortality experience to the policyholder through a non-guaranteed element. Examples include dividends on a participating whole life policies and cost of insurance charges on universal life policies without a secondary guarantee, where unfavorable company mortality experience could be offset by modifying these features on inforce policies. The Academy C-2 Morality Working Group attempts to address this issue by assigning policies with these non-guaranteed elements to proposed factors based on a 5-year exposure period (i.e., “other” category).

We would be interested in analysis to support why participating whole life or universal life without secondary guarantees should be assigned to a 5-year exposure period. If this was only intended to be a simplistic

conceptual adjustment to reflect less mortality risk in light of non-guarantee elements, then we would be interested if the Academy C-2 Mortality Working Group has any additional thoughts on how to more accurately quantify the decrease in mortality risk due to the presence of such features. For example, running a participating vs. non-participating whole life policy, or universal life with a secondary guarantee vs. without a secondary guarantee.

In the absence of this type of analysis, we think that assigning factors associated with a 5-year exposure may be too low (as this is about half of a 20-year exposure period). Instead, we would suggest determining the C-2 mortality component based on the underlying guarantee duration in the policy, and then subsequently adjusting the C-2 component downward for certain types of policies. For example, allow participating whole life policies and universal life policies with no or short secondary guarantees (e.g., 10 years or less) to receive a reduction factor that is closer to -20% (rather than -50%). Although non-guaranteed elements can offset some of the company mortality experience volatility, permanent policies still contain long-term death benefit guarantees that may have material mortality risk (even if lower than policyholder behavior risk on a relative basis).

## **Conclusion**

We believe the Academy C-2 Mortality Work Group has a great proposal, and that the adjustments described in this letter for catastrophe risk and guarantee duration will only make it stronger. Regardless, we are pleased to see the proposed updates to C-2, which would serve as a significant and more update-to-date improvement over the current factors. As always, we appreciate the Academy's hard work and intellectual rigor on this project, as well as the NAIC Life RBC Working Group providing us with the opportunity to comment.

Submitted via email:

We have the following comments regarding the C-2 mortality factor proposal:

1. The proposal replaces the 1% mortality improvement factor in the current model with the 2017 improvement scale from VM-20. We do not support the inclusion of any mortality improvement in the C-2 mortality factors.
2. The proposal for pandemic risk seems rather low given that we are currently in a pandemic with much higher mortality.

**William B. Carmello, Jr., FSA, MAAA**

Chief Life Actuary

**New York State Department of Financial Services**



AMERICAN ACADEMY *of* ACTUARIES

*Objective. Independent. Effective.*<sup>™</sup>

January 20, 2022

Mr. Philip Barlow  
Chair, Life Risk-Based Capital (E) Working Group  
National Association of Insurance Commissioners (NAIC)

Via e-mail: Dave Fleming ([dfleming@naic.org](mailto:dfleming@naic.org))

Re: Structural Updates to Life RBC C-2 Mortality

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Dear Philip,

On behalf of the C-2 Mortality Work Group of the American Academy of Actuaries<sup>1</sup>, we are providing two options for structural updates to the Life RBC C-2 Mortality factors for consideration to be exposed by 1/31/2022. Also included are draft instructions for informational purposes which are subject to a different exposure deadline of 4/30/2022.

Sincerely,

Chris Trost, MAAA, FSA  
Chairperson, C-2 Mortality Work Group  
Ryan Fleming, MAAA, FSA  
Vice Chairperson, C-2 Mortality Work Group  
American Academy of Actuaries

<sup>1</sup> The American Academy of Actuaries is a 19,500-member professional association whose mission is to serve the public and the U.S. actuarial profession. For more than 50 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.

**Capital Adequacy (E) Task Force**  
**RBC Proposal Form**

- Capital Adequacy (E) Task Force     
  Health RBC (E) Working Group     
  Life RBC (E) Working Group  
 Catastrophe Risk (E) Subgroup     
  Investment RBC (E) Working Group     
  Longevity Risk (A/E) Subgroup  
 C3 Phase II/ AG43 (E/A) Subgroup     
  P/C RBC (E) Working Group

<b>DATE:</b> <u>1/20/22</u> <b>CONTACT PERSON:</b> <u>Ryan Fleming, MAAA, FSA</u> <b>TELEPHONE:</b> <u>(414) 665-5020</u> <b>EMAIL ADDRESS:</b> <u>ryanfleming@northwesternmutual.com</u> <b>ON BEHALF OF:</b> <u>AAA C-2 Mortality Work Group</u> <b>NAME:</b> <u>Ryan Fleming, MAAA, FSA</u> <b>TITLE:</b> <u>Vice Chairperson</u> <b>AFFILIATION:</b> <u>American Academy of Actuaries</u> <b>ADDRESS:</b> <u>1850 M Street NW, Suite 300</u> <u>Washington, DC 20036</u>	<u><b>FOR NAIC USE ONLY</b></u> Agenda Item # _____ Year <u>2022</u>  <u><b>DISPOSITION</b></u> <input type="checkbox"/> ADOPTED _____ <input type="checkbox"/> REJECTED _____ <input type="checkbox"/> DEFERRED TO _____ <input type="checkbox"/> REFERRED TO OTHER NAIC GROUP _____ <input type="checkbox"/> EXPOSED _____ <input type="checkbox"/> OTHER (SPECIFY) _____
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**IDENTIFICATION OF SOURCE AND FORM(S)/INSTRUCTIONS TO BE CHANGED**

- Health RBC Blanks     
  Property/Casualty RBC Blanks     
  Life and Fraternal RBC Instructions  
 Health RBC Instructions     
  Property/Casualty RBC Instructions     
  Life and Fraternal RBC Instructions  
 OTHER \_\_\_\_\_

**DESCRIPTION OF CHANGE(S)**

Updated blank for C2 Life Mortality on LR025, LR030 and LR031. Draft instructions are included for informational purposes and are subject to a different exposure deadline of 4/30/22.

**REASON OR JUSTIFICATION FOR CHANGE \*\***

Structural changes necessary to facilitate the implementation of updated C2 life mortality factors and expanded categories.

**Additional Staff Comments:**

\*\* This section must be completed on all forms.

Revised 2-2019

LIFE INSURANCE			(1)		(2)
DRAFT - OPTION 1		Annual Statement Source	Statement Value	Factor	RBC Requirement
<b>Individual &amp; Industrial Life Net Amount at Risk</b>					
(1)	Ordinary Life In Force	Exhibit of Life Insurance Column 4 Line 23 x 1000			
(2)+(3)	Plus Industrial Life In Force	Exhibit of Life Insurance Column 2 Line 23 x 1000			
(3)	<b>Total Individual &amp; Industrial Life In Force</b>	<b>Lines (1) + (2)</b>			
(4)+(5)	<del>Less</del> Ordinary Life Reserves	Exhibit 5 Column 4 Line 0199999			
(5)+(6)	<del>Less</del> Plus Industrial Life Reserves	Exhibit 5 Column 3 Line 0199999			
(6)+(5)	<del>Less</del> Plus Ordinary Life Separate Accounts	Separate Accounts Exhibit 3 Column 3 Line 0199999			
(7)+(6)	<del>Less</del> Plus Ordinary & Industrial Life Modified Coinsurance Assumed Reserves	Schedule S Part 1 Section 1 Column 12, in part ‡			
(8)+(7)	<del>Plus</del> Less Ordinary & Industrial Life Modified Coinsurance Ceded Reserves	Schedule S Part 3 Section 1 Column 14, in part ‡			
(9)	<b>Total Individual &amp; Industrial Life Reserves</b>	<b>Lines (4) + (5) + (6) + (7) - (8)</b>			
(10)+(9)	<b>Total Individual and Industrial Life Net Amount at Risk</b>	<b>Lines (3) + (7) - (2) - (4) - (5) - (6) (3) - (9)</b>		X	+
<b>Risk</b>					
(11)	Universal Life with Secondary Guarantees In Force	Company Records*			
(12)	Less Universal Life with Secondary Guarantees Reserves	Analysis of Increase in Reserves During the Year - Individual Life Insurance Column 7 Line 15			
(13)	<b>Total Universal Life with Secondary Guarantees Net Amount at Risk</b>	<b>Lines (11) - (12)</b>		X	†
(14)	Term Life In Force	Company Records*			
(15)	Less Term Life Reserves	Analysis of Increase in Reserves During the Year - Individual Life Insurance Column 4 Line 15			
(16)	<b>Total Term Life Net Amount at Risk</b>	<b>Lines (14) - (15)</b>		X	†
(17)	All Other Life In Force	Lines (3) - (11) - (14)			
(18)	Less All Other Life Reserves	Lines (9) - (12) - (15)			
(19)	<b>All Other Life Net Amount at Risk</b>	<b>Lines (17) - (18)</b>		X	†
(20)	<b>Total Individual &amp; Industrial Life</b>	<b>Lines (13) + (16) + (19)</b>			
<b>Group and Credit Life Net Amount at Risk</b>					
(21)+(20)	Group Life In Force	Exhibit of Life Insurance Column 9 Line 23 x 1000			
(22)+(23)	Plus Credit Life In Force	Exhibit of Life Insurance Column 6 Line 23 x 1000			
(23)+(24)	Less Group FEGLI In Force	Exhibit of Life Insurance Column 4 Line 43 x 1000			
(24)+(24)	Less Group SGLI In Force	Exhibit of Life Insurance Column 4 Line 44 x 1000			
(25)+(24)	Less Credit FEGLI In Force	Exhibit of Life Insurance Column 2 Line 43 x 1000			
(26)+(25)	Less Credit SGLI In Force	Exhibit of Life Insurance Column 2 Line 44 x 1000			
(27)	<b>Total Group &amp; Credit Life In Force excluding FEGLI/SGLI</b>	<b>Lines (21) + (22) - (23) - (24) - (25) - (26)</b>			
(28)+(22)	<del>Less</del> Group Life Reserves	Exhibit 5 Column 6 Line 0199999			
(29)+(22)	<del>Less</del> Plus Credit Life Reserves	Exhibit 5 Column 5 Line 0199999			
(30)+(22)	<del>Less</del> Plus Group Life Separate Accounts	Separate Accounts Exhibit 3 Column 4 Line 0199999			
(31)+(22)	<del>Less</del> Plus Group & Credit Life Modified Coinsurance Assumed Reserves	Schedule S Part 1 Section 1 Column 12, in part ‡			
(32)+(22)	<del>Plus</del> Less Group & Credit Life Modified Coinsurance Ceded Reserves	Schedule S Part 3 Section 1 Column 14, in part ‡			
(33)	<b>Total Group &amp; Credit Life Reserves</b>	<b>Lines (28) + (29) + (30) + (31) - (32)</b>			
(34)+(20)	<b>Total Group and Credit Life Net Amount at Risk excluding FEGLI/SGLI</b>	<b>Lines (9) - (12) - (15) - (18) - (22) - (23) - (24) - (25) - (26) - (27) - (33)</b>		X	+
(35)	Group & Credit Life In Force with Remaining Rate Terms 36 Months and Under	Company Records*			
(36)	Less Group & Credit Life Reserves with Remaining Rate Terms 36 Months and Under	Company Records*			
(37)	<b>Group &amp; Credit Life Net Amounts at Risk with Remaining Rate Terms 36 Months and Under</b>	<b>Lines (35) - (36)</b>		X	†
(38)	Group & Credit Life In Force with Remaining Rate Terms Over 36 Months	Lines (27) - (35)			
(39)	Less Group & Credit Life Reserves with Remaining Rate Terms Over 36 Months	Lines (33) - (36)			
(40)	<b>Group &amp; Credit Life Net Amount at Risk with Remaining Rate Terms Over 36 Months</b>	<b>Lines (38) - (39)</b>		X	†
(41)+(40)	FEGLI/SGLI In Force	Exhibit of Life Insurance Sum of Column 2 and 4 Line 43 and 44 x 1000 <del>44 x 1000</del>		X	0.0008
(42)	<b>Total Group &amp; Credit Life</b>	<b>Lines (37) + (40) + (41)</b>			
(43)+(42)	<b>Total Life</b>	<b>Lines (8) - (20) + (24) (20) + (42)</b>			

\* The definitions are specified in the Life Insurance section of the risk-based capital instructions  
 † The tiered calculation is illustrated in the Life Insurance section of the risk-based capital instructions.  
 ‡ Include only the portion which relates to policy reserves that, if written on a direct basis, would be included on Exhibit 5.

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

LIFE INSURANCE  
 DRAFT - OPTION 2

	Annual Statement Source	(1) Statement Value	Factor	(2) RBC Requirement
<b>Individual &amp; Industrial Life Net Amount at Risk</b>				
(1)	Ordinary Life In Force	Exhibit of Life Insurance Column 4 Line 23 x 1000		
(2)+(3)	Plus Industrial Life In Force	Exhibit of Life Insurance Column 2 Line 23 x 1000		
(3)	<b>Total Individual &amp; Industrial Life In Force</b>	<b>Lines (1) + (2)</b>		
(4)+(5)	<del>Less</del> Ordinary Life Reserves	Exhibit 5 Column 4 Line 0199999		
(5)+(6)	<del>Less</del> Plus Industrial Life Reserves	Exhibit 5 Column 3 Line 0199999		
(6)+(5)	<del>Less</del> Plus Ordinary Life Separate Accounts	Separate Accounts Exhibit 3 Column 3 Line 0199999		
(7)+(6)	<del>Less</del> Plus Ordinary & Industrial Life Modified Coinsurance Assumed Reserves	Schedule S Part 1 Section 1 Column 12, in part ‡		
(8)+(7)	<del>Plus</del> Less Ordinary & Industrial Life Modified Coinsurance Ceded Reserves	Schedule S Part 3 Section 1 Column 14, in part ‡		
(9)	<b>Total Individual &amp; Industrial Life Reserves</b>	<b>Lines (4) + (5) + (6) + (7) - (8)</b>		
(10)+(9)	<b>Total Individual and Industrial Life Net Amount at Risk</b>	<b>Lines (3) + (9) - (2) - (4) - (5) - (6) (3) - (9)</b>	X	+
<b>Risk</b>				
(11)	Life Policies with Pricing Flexibility In Force	Company Records*		
(12)	Less Life Policies with Pricing Flexibility In Force Reserves	Company Records*		
(13)	<b>Total Life Policies with Pricing Flexibility Net Amount at Risk</b>	<b>Lines (11) - (12)</b>	X	†
(14)	Term Life Policies without Pricing Flexibility In Force	Company Records*		
(15)	Less Term Life Policies without Pricing Flexibility Reserves	Company Records*		
(16)	<b>Total Term Life Policies without Pricing Flexibility Net Amount at Risk</b>	<b>Lines (14) - (15)</b>	X	†
(17)	Permanent Life Policies without Pricing Flexibility In Force	Lines (3) - (11) - (14)		
(18)	Less Permanent Life Policies without Pricing Flexibility Reserves	Lines (9) - (12) - (15)		
(19)	<b>Permanent Life Policies without Pricing Flexibility Net Amount at Risk</b>	<b>Lines (17) - (18)</b>	X	†
(20)	<b>Total Individual &amp; Industrial Life</b>	<b>Lines (13) + (16) + (19)</b>		
<b>Group and Credit Life Net Amount at Risk</b>				
(21)+(20)	Group Life In Force	Exhibit of Life Insurance Column 9 Line 23 x 1000		
(22)+(23)	Plus Credit Life In Force	Exhibit of Life Insurance Column 6 Line 23 x 1000		
(23)+(24)	Less Group FEGLI In Force	Exhibit of Life Insurance Column 4 Line 43 x 1000		
(24)+(24)	Less Group SGLI In Force	Exhibit of Life Insurance Column 2 Line 44 x 1000		
(25)+(24)	Less Credit FEGLI In Force	Exhibit of Life Insurance Column 2 Line 43 x 1000		
(26)+(25)	Less Credit SGLI In Force	Exhibit of Life Insurance Column 2 Line 44 x 1000		
(27)	<b>Total Group &amp; Credit Life In Force excluding FEGLI/SGLI</b>	<b>Lines (21) + (22) - (23) - (24) - (25) - (26)</b>		
(28)+(22)	<del>Less</del> Group Life Reserves	Exhibit 5 Column 6 Line 0199999		
(29)+(22)	<del>Less</del> Plus Credit Life Reserves	Exhibit 5 Column 5 Line 0199999		
(30)+(22)	<del>Less</del> Plus Group Life Separate Accounts	Separate Accounts Exhibit 3 Column 4 Line 0199999		
(31)+(22)	<del>Less</del> Plus Group & Credit Life Modified Coinsurance Assumed Reserves	Schedule S Part 1 Section 1 Column 12, in part ‡		
(32)+(22)	<del>Plus</del> Less Group & Credit Life Modified Coinsurance Ceded Reserves	Schedule S Part 3 Section 1 Column 14, in part ‡		
(33)	<b>Total Group &amp; Credit Life Reserves</b>	<b>Lines (28) + (29) + (30) + (31) - (32)</b>		
(34)+(20)	<b>Total Group and Credit Life Net Amount at Risk excluding FEGLI/SGLI</b>	<b>Lines (27) - (43) - (49) - (40) - (41) - (42) - (44) - (45) (27) - (33) - (46) - (47) - (48)</b>	X	+
(35)	Group & Credit Life In Force with Remaining Rate Terms 36 Months and Under	Company Records*		
(36)	Less Group & Credit Life Reserves with Remaining Rate Terms 36 Months and Under	Company Records*		
(37)	<b>Group &amp; Credit Life Net Amounts at Risk with Remaining Rate Terms 36 Months and Under</b>	<b>Lines (35) - (36)</b>	X	†
(38)	Group & Credit Life In Force with Remaining Rate Terms Over 36 Months	Lines (27) - (35)		
(39)	Less Group & Credit Life Reserves with Remaining Rate Terms Over 36 Months	Lines (33) - (36)		
(40)	<b>Group &amp; Credit Life Net Amount at Risk with Remaining Rate Terms Over 36 Months</b>	<b>Lines (38) - (39)</b>	X	†
(41)+(34)	FEGLI/SGLI In Force	Exhibit of Life Insurance Sum of Column 2 and 4 Line 43 and 44 x 1000 <del>44 x 1000</del>	X	0.0008
(42)	<b>Total Group &amp; Credit Life</b>	<b>Lines (37) + (40) + (41)</b>		
(43)+(20)	<b>Total Life</b>	<b>Lines (20) + (34) + (41) + (42)</b>		

\* The definitions are specified in the Life Insurance section of the risk-based capital instructions  
 † The tiered calculation is illustrated in the Life Insurance section of the risk-based capital instructions.  
 ‡ Include only the portion which relates to policy reserves that, if written on a direct basis, would be included on Exhibit 5.

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

Company Name

Confidential when Completed

NAIC Company Code

CALCULATION OF TAX EFFECT FOR LIFE AND FRATERNAL RISK-BASED CAPITAL

	<u>Source</u>	(1) <u>RBC Amount</u>	<u>Tax Factor</u>	(2) <u>RBC Tax Effect</u>
<u>ASSET RISKS</u>				
<u>Bonds</u>				
(001) Long-term Bonds – NAIC 1	LR002 Bonds Column (2) Line (2.8) + LR018 Off-Balance Sheet Collateral Column (3) Line (2.8)	_____	X 0.1680	= _____
(002) Long-term Bonds – NAIC 2	LR002 Bonds Column (2) Line (3.4) + LR018 Off-Balance Sheet Collateral Column (3) Line (3.4)	_____	X 0.1680	= _____
(003) Long-term Bonds – NAIC 3	LR002 Bonds Column (2) Line (4.4) + LR018 Off-Balance Sheet Collateral Column (3) Line (4.4)	_____	X 0.1680	= _____
(004) Long-term Bonds – NAIC 4	LR002 Bonds Column (2) Line (5.4) + LR018 Off-Balance Sheet Collateral Column (3) Line (5.4)	_____	X 0.1680	= _____
(005) Long-term Bonds – NAIC 5	LR002 Bonds Column (2) Line (6.4) + LR018 Off-Balance Sheet Collateral Column (3) Line (6.4)	_____	X 0.1680	= _____
(006) Long-term Bonds – NAIC 6	LR002 Bonds Column (2) Line (7) + LR018 Off-Balance Sheet Collateral Column (3) Line (7)	_____	X 0.2100	= _____
(007) Short-term Bonds – NAIC 1	LR002 Bonds Column (2) Line (10.8)	_____	X 0.1680	= _____
(008) Short-term Bonds – NAIC 2	LR002 Bonds Column (2) Line (11.4)	_____	X 0.1680	= _____
(009) Short-term Bonds – NAIC 3	LR002 Bonds Column (2) Line (12.4)	_____	X 0.1680	= _____
(010) Short-term Bonds – NAIC 4	LR002 Bonds Column (2) Line (13.4)	_____	X 0.1680	= _____
(011) Short-term Bonds – NAIC 5	LR002 Bonds Column (2) Line (14.4)	_____	X 0.1680	= _____
(012) Short-term Bonds – NAIC 6	LR002 Bonds Column (2) Line (15)	_____	X 0.2100	= _____
(013) Credit for Hedging - NAIC 1 Through 5 Bonds	LR014 Hedged Asset Bond Schedule Column (13) Line (0199999)	_____	X 0.1680	= _____ †
(014) Credit for Hedging - NAIC 6 Bonds	LR014 Hedged Asset Bond Schedule Column (13) Line (0299999)	_____	X 0.2100	= _____ †
(015) Bond Reduction - Reinsurance	LR002 Bonds Column (2) Line (19)	_____	X 0.2100	= _____ †
(016) Bond Increase - Reinsurance	LR002 Bonds Column (2) Line (20)	_____	X 0.2100	= _____
(017) Non-Exempt NAIC 1 U.S. Government Agency	LR002 Bonds Column (2) Line (22)	_____	X 0.1680	= _____
(018) Bonds Size Factor	LR002 Bonds Column (2) Line (26) - LR002 Bonds Column (2) Line (21)	_____	X 0.1680	= _____
<u>Mortgages</u>				
<u>In Good Standing</u>				
(019) Residential Mortgages - Insured	LR004 Mortgages Column (6) Line (1)	_____	X 0.1575	= _____
(020) Residential Mortgages - Other	LR004 Mortgages Column (6) Line (2)	_____	X 0.1575	= _____
(021) Commercial Mortgages - Insured	LR004 Mortgages Column (6) Line (3)	_____	X 0.1575	= _____
(022) Total Commercial Mortgages - All Other	LR004 Mortgages Column (6) Line (9)	_____	X 0.1575	= _____
(023) Total Farm Mortgages	LR004 Mortgages Column (6) Line (15)	_____	X 0.1575	= _____
<u>90 Days Overdue</u>				
(024) Farm Mortgages	LR004 Mortgages Column (6) Line (16)	_____	X 0.1575	= _____
(025) Residential Mortgages - Insured	LR004 Mortgages Column (6) Line (17)	_____	X 0.1575	= _____
(026) Residential Mortgages - Other	LR004 Mortgages Column (6) Line (18)	_____	X 0.1575	= _____
(027) Commercial Mortgages - Insured	LR004 Mortgages Column (6) Line (19)	_____	X 0.1575	= _____
(028) Commercial Mortgages - Other	LR004 Mortgages Column (6) Line (20)	_____	X 0.1575	= _____
<u>In Process of Foreclosure</u>				
(029) Farm Mortgages	LR004 Mortgages Column (6) Line (21)	_____	X 0.1575	= _____

† Denotes lines that are deducted from the total rather than added.

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

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CALCULATION OF TAX EFFECT FOR LIFE AND FRATERNAL RISK-BASED CAPITAL (CONTINUED)

			(1)	Tax Factor	(2)
			RBC Amount		RBC Tax Effect
(030)	Residential Mortgages - Insured	LR004 Mortgages Column (6) Line (22)	_____	X 0.1575	= _____
(031)	Residential Mortgages - Other	LR004 Mortgages Column (6) Line (23)	_____	X 0.1575	= _____
(032)	Commercial Mortgages - Insured	LR004 Mortgages Column (6) Line (24)	_____	X 0.1575	= _____
(033)	Commercial Mortgages - Other	LR004 Mortgages Column (6) Line (25)	_____	X 0.1575	= _____
(034)	Due & Unpaid Taxes Mortgages	LR004 Mortgages Column (6) Line (26)	_____	X 0.1575	= _____
(035)	Due & Unpaid Taxes - Foreclosures	LR004 Mortgages Column (6) Line (27)	_____	X 0.1575	= _____
(036)	Mortgage Reduction - Reinsurance	LR004 Mortgages Column (6) Line (29)	_____	X 0.2100	= _____ †
(037)	Mortgage Increase - Reinsurance	LR004 Mortgages Column (6) Line (30)	_____	X 0.2100	= _____
<u>Preferred Stock</u>					
(038)	Unaffiliated Preferred Stock NAIC 1	LR005 Unaffiliated Preferred and Common Stock Column (5) Line (1) + LR018 Off-Balance Sheet Collateral Column (3) Line (9)	_____	X 0.1575	= _____
(039)	Unaffiliated Preferred Stock NAIC 2	LR005 Unaffiliated Preferred and Common Stock Column (5) Line (2) + LR018 Off-Balance Sheet Collateral Column (3) Line (10)	_____	X 0.1575	= _____
(040)	Unaffiliated Preferred Stock-NAIC 3	LR005 Unaffiliated Preferred and Common Stock Column (5) Line (3) + LR018 Off-Balance Sheet Collateral Column (3) Line (11)	_____	X 0.1575	= _____
(041)	Unaffiliated Preferred Stock NAIC 4	LR005 Unaffiliated Preferred and Common Stock Column (5) Line (4) + LR018 Off-Balance Sheet Collateral Column (3) Line (12)	_____	X 0.1575	= _____
(042)	Unaffiliated Preferred Stock NAIC 5	LR005 Unaffiliated Preferred and Common Stock Column (5) Line (5) + LR018 Off-Balance Sheet Collateral Column (3) Line (13)	_____	X 0.1575	= _____
(043)	Unaffiliated Preferred Stock NAIC 6	LR005 Unaffiliated Preferred and Common Stock Column (5) Line (6) + LR018 Off-Balance Sheet Collateral Column (3) Line (14)	_____	X 0.2100	= _____
(044)	Preferred Stock Reduction-Reinsurance	LR005 Unaffiliated Preferred and Common Stock Column (5) Line (8)	_____	X 0.2100	= _____ †
(045)	Preferred Stock Increase-Reinsurance	LR005 Unaffiliated Preferred and Common Stock Column (5) Line (9)	_____	X 0.2100	= _____
<u>Separate Accounts</u>					
(046)	Guaranteed Index	LR006 Separate Accounts Column (3) Line (1)	_____	X 0.1575	= _____
(047)	Nonindex-Book Reserve	LR006 Separate Accounts Column (3) Line (2)	_____	X 0.1575	= _____
(048)	Separate Accounts Nonindex-Market Reserve	LR006 Separate Accounts Column (3) Line (3)	_____	X 0.1575	= _____
(049)	Separate Accounts Reduction-Reinsurance	LR006 Separate Accounts Column (3) Line (5)	_____	X 0.2100	= _____ †
(050)	Separate Accounts Increase-Reinsurance	LR006 Separate Accounts Column (3) Line (6)	_____	X 0.2100	= _____
(051)	Synthetic GICs	LR006 Separate Accounts Column (3) Line (8)	_____	X 0.1575	= _____
(052)	Separate Account Surplus	LR006 Separate Accounts Column (3) Line (13)	_____	X 0.1575	= _____
<u>Real Estate</u>					
(053)	Company Occupied Real Estate	LR007 Real Estate Column (3) Line (3)	_____	X 0.2100	= _____
(054)	Foreclosed Real Estate	LR007 Real Estate Column (3) Line (6)	_____	X 0.2100	= _____
(055)	Investment Real Estate	LR007 Real Estate Column (3) Line (9)	_____	X 0.2100	= _____
(056)	Real Estate Reduction - Reinsurance	LR007 Real Estate Column (3) Line (11)	_____	X 0.2100	= _____ †
(057)	Real Estate Increase - Reinsurance	LR007 Real Estate Column (3) Line (12)	_____	X 0.2100	= _____
(058)	Sch BA Real Estate Excluding Low Income Housing Tax Credits	LR007 Real Estate Column (3) Line (16)	_____	X 0.2100	= _____
(059)	Guaranteed Low Income Housing Tax Credits	LR007 Real Estate Column (3) Line (17) + Line (19)	_____	X 0.0000	= _____
(060)	Non-Guaranteed and All Other Low Income Housing Tax Credits	LR007 Real Estate Column (3) Line (18) + Line (20) + Line (21)	_____	X 0.0000	= _____
(061)	Sch BA Real Estate Reduction - Reinsurance	LR007 Real Estate Column (3) Line (23)	_____	X 0.2100	= _____ †
(062)	Sch BA Real Estate Increase - Reinsurance	LR007 Real Estate Column (3) Line (24)	_____	X 0.2100	= _____

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CALCULATION OF TAX EFFECT FOR LIFE AND FRATERNAL RISK-BASED CAPITAL (CONTINUED)

	Source	(1) RBC Amount	Tax Factor	(2) RBC Tax Effect
(063) Sch BA Bond NAIC 1	LR008 Other Long-Term Assets Column (5) Line (2)		X 0.1575	=
(064) Sch BA Bond NAIC 2	LR008 Other Long-Term Assets Column (5) Line (3)		X 0.1575	=
(065) Sch BA Bond NAIC 3	LR008 Other Long-Term Assets Column (5) Line (4)		X 0.1575	=
(066) Sch BA Bond NAIC 4	LR008 Other Long-Term Assets Column (5) Line (5)		X 0.1575	=
(067) Sch BA Bond NAIC 5	LR008 Other Long-Term Assets Column (5) Line (6)		X 0.1575	=
(068) Sch BA Bond NAIC 6	LR008 Other Long-Term Assets Column (5) Line (7)		X 0.1575	=
(069) BA Bond Reduction - Reinsurance	LR008 Other Long-Term Assets Column (5) Line (9)		X 0.2100	=
(070) BA Bond Increase - Reinsurance	LR008 Other Long-Term Assets Column (5) Line (10)		X 0.2100	= †
(071) BA Preferred Stock NAIC 1	LR008 Other Long-Term Assets Column (5) Line (12.3)		X 0.1575	=
(072) BA Preferred Stock NAIC 2	LR008 Other Long-Term Assets Column (5) Line (13)		X 0.1575	=
(073) BA Preferred Stock NAIC 3	LR008 Other Long-Term Assets Column (5) Line (14)		X 0.1575	=
(074) BA Preferred Stock NAIC 4	LR008 Other Long-Term Assets Column (5) Line (15)		X 0.1575	=
(075) BA Preferred Stock NAIC 5	LR008 Other Long-Term Assets Column (5) Line (16)		X 0.1575	=
(076) BA Preferred Stock NAIC 6	LR008 Other Long-Term Assets Column (5) Line (17)		X 0.2100	=
(077) BA Preferred Stock Reduction-Reinsurance	LR008 Other Long-Term Assets Column (5) Line (19)		X 0.2100	= †
(078) BA Preferred Stock Increase - Reinsurance	LR008 Other Long-Term Assets Column (5) Line (20)		X 0.2100	=
(079) Rated Surplus Notes	LR008 Other Long-Term Assets Column (5) Line (31)		X 0.1575	=
(080) Rated Capital Notes	LR008 Other Long-Term Assets Column (5) Line (41)		X 0.1575	=
(081) BA Common Stock Affiliated	LR008 Other Long-Term Assets Column (5) Line (48.3)		X 0.2100	=
(082) BA Collateral Loans	LR008 Other Long-Term Assets Column (5) Line (50)		X 0.1575	=
(083) Other BA Assets	LR008 Other Long-Term Assets Column (5) Line (52.3) + LR018 Off-Balance Sheet Collateral Column (3) Line (17) + Line (18)		X 0.2100	=
(084) Other BA Assets Reduction-Reinsurance	LR008 Other Long-Term Assets Column (5) Line (54)		X 0.2100	= †
(085) Other BA Assets Increase - Reinsurance	LR008 Other Long-Term Assets Column (5) Line (55)		X 0.2100	=
(086) BA Mortgages - In Good Standing	LR009 Schedule BA Mortgages Column (6) Line (11)		X 0.1575	=
(087) BA Mortgages - 90 Days Overdue	LR009 Schedule BA Mortgages Column (6) Line (15)		X 0.1575	=
(088) BA Mortgages - In Process of Foreclosure	LR009 Schedule BA Mortgages Column (6) Line (19)		X 0.1575	=
(089) Reduction - Reinsurance	LR009 Schedule BA Mortgages Column (6) Line (21)		X 0.2100	= †
(090) Increase - Reinsurance	LR009 Schedule BA Mortgages Column (6) Line (22)		X 0.2100	=
<u>Miscellaneous</u>				
(091) Asset Concentration Factor	LR010 Asset Concentration Factor Column (6) Line (62) Grand Total Page		X 0.1575	=
(092) Miscellaneous Assets	LR012 Miscellaneous Assets Column (2) Line (7)		X 0.1575	=
(093) Derivatives - Collateral and Exchange Traded	LR012 Miscellaneous Assets Column (2) Lines (8) + (9) + (10)		X 0.1575	=
(094) Derivatives NAIC 1	LR012 Miscellaneous Assets Column (2) Line (11)		X 0.1575	=
(095) Derivatives NAIC 2	LR012 Miscellaneous Assets Column (2) Line (12)		X 0.1575	=
(096) Derivatives NAIC 3	LR012 Miscellaneous Assets Column (2) Line (13)		X 0.1575	=
(097) Derivatives NAIC 4	LR012 Miscellaneous Assets Column (2) Line (14)		X 0.1575	=
(098) Derivatives NAIC 5	LR012 Miscellaneous Assets Column (2) Line (15)		X 0.1575	=
(099) Derivatives NAIC 6	LR012 Miscellaneous Assets Column (2) Line (16)		X 0.2100	=
(100) Miscellaneous Assets Reduction-Reinsurance	LR012 Miscellaneous Assets Column (2) Line (19)		X 0.2100	= †
(101) Miscellaneous Assets Increase-Reinsurance	LR012 Miscellaneous Assets Column (2) Line (20)		X 0.2100	=

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CALCULATION OF TAX EFFECT FOR LIFE AND FRATERNAL RISK-BASED CAPITAL (CONTINUED)

			(1)		(2)
		Source	RBC Amount	Tax Factor	RBC Tax Effect
(102)	Replications	LR013 Replication (Synthetic Asset) Transactions and Mandatory Convertible Securities Column (7) Line (9999999)		X 0.1575	=
(103)	Reinsurance	LR016 Reinsurance Column (4) Line (17)		X 0.2100	=
(104)	Investment Affiliates	LR042 Summary for Affiliated Investments Column (4) Line (6)		X 0.2100	=
(105)	Investment in Parent	LR042 Summary for Affiliated Investments Column (4) Line (10)		X 0.2100	=
(106)	Other Affiliate: Property and Casualty Insurers not Subject to Risk-Based Capital	LR042 Summary for Affiliated Investments Column (4) Line (11)		X 0.2100	=
(107)	Other Affiliate: Life Insurers not Subject to Risk-Based Capital	LR042 Summary for Affiliated Investments Column (4) Line (12)		X 0.2100	=
(108)	Publicly Traded Insurance Affiliates	LR042 Summary for Affiliated Investments Column (4) Line (14)		X 0.2100	=
(109)	Subtotal for C-1o Assets	Sum of Lines (001) through (108), Recognizing the Deduction of Lines (013), (014), (015), (036), (044), (049), (056), (061), (069), (077), (084), (089) and (100)			=
	<u>C-0 Affiliated Common Stock</u>				
(110)	Off-Balance Sheet and Other Items	LR017 Off-Balance Sheet and Other Items Column (5) Line (27)		X 0.1575	=
(111)	Off-Balance Sheet Items Reduction - Reinsurance	LR017 Off-Balance Sheet and Other Items Column (5) Line (28)		X 0.2100	=
(112)	Off-Balance Sheet Items Increase - Reinsurance	LR017 Off-Balance Sheet and Other Items Column (5) Line (29)		X 0.2100	=
(113)	Affiliated US Property - Casualty Insurers Directly Owned	LR042 Summary for Affiliated Investments Column (4) Line (1)		X 0.2100	=
(114)	Affiliated US Life Insurers Directly Owned	LR042 Summary for Affiliated Investments Column (4) Line (2)		X 0.2100	=
(115)	Affiliated US Health Insurers Directly and Indirectly Owned	LR042 Summary for Affiliated Investments Column (4) Line (3)		X 0.2100	=
(116)	Affiliated US Property - Casualty Insurers Indirectly Owned	LR042 Summary for Affiliated Investments Column (4) Line (4)		X 0.2100	=
(117)	Affiliated US Life Insurers Indirectly Owned	LR042 Summary for Affiliated Investments Column (4) Line (5)		X 0.2100	=
(118)	Affiliated Alien Life Insurers - Canadian	LR042 Summary for Affiliated Investments Column (4) Line (8)		X 0.2100	=
(119)	Affiliated Alien Life Insurers - All Others	LR042 Summary for Affiliated Investments Column (4) Line (9)		X 0.0000	=
(120)	Subtotal for C-0 Affiliated Common Stock	Lines (110)-(111)+(112)+(113)+(114)+(115)+(116)+(117)+(118)+(119)			=
	<u>Common Stock</u>				
(121)	Unaffiliated Common Stock	LR005 Unaffiliated Preferred and Common Stock Column (5) Line (17) + LR018 Off-Balance Sheet Collateral Column (3) Line (16)		X 0.2100	=
(122)	Credit for Hedging - Common Stock	LR015 Hedged Asset Common Stock Schedule Column (10) Line (0299999)		X 0.2100	=
(123)	Stock Reduction - Reinsurance	LR005 Unaffiliated Preferred and Common Stock Column (5) Line (19)		X 0.2100	=
(124)	Stock Increase - Reinsurance	LR005 Unaffiliated Preferred and Common Stock Column (5) Line (20)		X 0.2100	=
(125)	BA Common Stock Unaffiliated	LR008 Other Long-Term Assets Column (5) Line (47)		X 0.2100	=
(126)	BA Common Stock Affiliated - C-1cs	LR008 Other Long-Term Assets Column (5) Line (49.2)		X 0.2100	=
(127)	Common Stock Concentration Factor	LR011 Common Stock Concentration Factor Column (6) Line (6)		X 0.2100	=
(128)	NAIC 01 Working Capital Finance Notes	LR008 Other Long-Term Assets Column (5) Line (51.1)		X 0.1575	=
(129)	NAIC 02 Working Capital Finance Notes	LR008 Other Long-Term Assets Column (5) Line (51.2)		X 0.1575	=
(130)	Affiliated Preferred Stock and Common Stock - Holding Company in Excess of Indirect Subs	LR042 Summary for Affiliated Investments Column (4) Line (7)		X 0.2100	=
(131)	Affiliated Preferred Stock and Common Stock - All Other	LR042 Summary for Affiliated Investments Column (4) Line (13)		X 0.2100	=
(132)	Total for C-1cs Assets	Lines (121)-(122)-(123)+(124)+(125)+(126)+(127)+(128)+(129)+(130)+(131)			=
	<u>Insurance Risk</u>				
(133)	Disability Income Premium	LR019 Health Premiums Column (2) Lines (21) through (27)		X 0.2100	=

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CALCULATION OF TAX EFFECT FOR LIFE AND FRATERNAL RISK-BASED CAPITAL (CONTINUED)

	Source	(1) RBC Amount	Tax Factor	(2) RBC Tax Effect
(134) Long-Term Care	LR019 Health Premiums Column (2) Line (28) + LR023 Long-Term Care Column (4) Line (7)	_____	X 0.2100	= _____
(135) <b>Individual &amp; Industrial</b> Life Insurance C-2 Risk	LR025 Life Insurance Column (2) Line <del>(8)</del> <b>(20)</b>	_____	X 0.2100	= _____
(136) <b>Group &amp; Credit Life</b> Insurance C-2 Risk	LR025 Life Insurance Column (2) Lines <del>(20)</del> and <del>(21)</del> <b>(42)</b>	_____	X 0.2100	= _____
(136b) Longevity C-2 Risk	LR025-A Longevity Risk Column (2) Line (5)	_____	X 0.2100	= _____
(137) Disability and Long-Term Care Health Claim Reserves	LR024 Health Claim Reserves Column (4) Line (9) + Line (15)	_____	X 0.2100	= _____
(138) Premium Stabilization Credit	LR026 Premium Stabilization Reserves Column (2) Line (10)	_____	X 0.0000	= _____
(139) Total C-2 Risk	L(133) + L(134) + L(137) + L(138) + Greatest of [Guardrail Factor * (L(135)+L(136)), Guardrail Factor * L(136b), Square Root of [ (L(135) + L(136)) <sup>2</sup> + 2 * (Correlation Factor) * (L(135) + L(136)) * L(136b) ]]	=====		=====
(140) Interest Rate Risk	LR027 Interest Rate Risk Column (3) Line (36)	_____	X 0.2100	= _____
(141) Health Credit Risk	LR028 Health Credit Risk Column (2) Line (7)	_____	X 0.0000	= _____
(142) Market Risk	LR027 Interest Rate Risk Column (3) Line (37)	_____	X 0.2100	= _____
(143) Business Risk	LR029 Business Risk Column (2) Line (40)	_____	X 0.2100	= _____
(144) Health Administrative Expenses	LR029 Business Risk Column (2) Line (57)	_____	X 0.0000	= _____
(145) Total Tax Effect	Lines (109) + (120) + (132) + (139) + (140) + (141) + (142) + (143) + (144)	_____		_____

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CALCULATION OF AUTHORIZED CONTROL LEVEL RISK-BASED CAPITAL  
 Company Name

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	Source	RBC Requirement
<u>Insurance Affiliates and Misc. Other Amounts (C-0)</u>		
(1) Affiliated US Property-Casualty Insurers Directly Owned	LR042 Summary for Affiliated Investments Column (4) Line (1)	_____
(2) Affiliated US Life Insurers Directly Owned	LR042 Summary for Affiliated Investments Column (4) Line (2)	_____
(3) Affiliated US Health Insurers Directly and Indirectly Owned	LR042 Summary for Affiliated Investments Column (4) Line (3)	_____
(4) Affiliated US Property-Casualty Insurers Indirectly Owned	LR042 Summary for Affiliated Investments Column (4) Line (4)	_____
(5) Affiliated US Life Insurers Indirectly Owned	LR042 Summary for Affiliated Investments Column (4) Line (5)	_____
(6) Affiliated Alien Life Insurers - Canadian	LR042 Summary for Affiliated Investments Column (4) Line (8)	_____
(7) Affiliated Alien Life Insurers - All Others	LR042 Summary for Affiliated Investments Column (4) Line (9)	_____
(8) Off-Balance Sheet and Other Items	LR017 Off-Balance Sheet and Other Items Column (5) Line (34)	_____
(9) Total (C-0) - Pre-Tax	Sum of Lines (1) through (8)	_____
(10) (C-0) Tax Effect	LR030 Calculation of Tax Effect for Life and Fraternal Risk-Based Capital Column (2) Line (120)	_____
(11) Net (C-0) - Post-Tax	Line (9) - Line (10)	=====
<u>Asset Risk - Unaffiliated Common Stock and Affiliated Non-Insurance Stock (C-1cs)</u>		
(12) Schedule D Unaffiliated Common Stock	LR005 Unaffiliated Common Stock Column (5) Line (21) + LR018 Off-Balance Sheet Collateral Column (3) Line (16)	_____
(13) Schedule BA Unaffiliated Common Stock	LR008 Other Long-Term Assets Column (5) line (47)	_____
(14) Schedule BA Affiliated Common Stock - C-1cs	LR008 Other Long-Term Assets Column (5) line (49.2)	_____
(15) Common Stock Concentration Factor	LR011 Common Stock Concentration Factor Column (6) Line (6)	_____
(16) Affiliated Preferred Stock and Common Stock - Holding Company in Excess of Indirect Subsidiaries	LR042 Summary for Affiliated Investments Column (4) Line (7)	_____
(17) Affiliated Preferred Stock and Common Stock - All Other	LR042 Summary for Affiliated Investments Column (4) Line (13)	_____
(18) Total (C-1cs) - Pre-Tax	Sum of Lines (12) through (17)	_____
(19) (C-1cs) Tax Effect	LR030 Calculation of Tax Effect for Life and Fraternal Risk-Based Capital Column (2) Line (132)	_____
(20) Net (C-1cs) - Post-Tax	Line (18) - Line (19)	=====
<u>Asset Risk - All Other (C-1a)</u>		
(21) Bonds after Size Factor	LR002 Bonds Column (2) Line (27) + LR018 Off-Balance Sheet Collateral Column (3) Line (8)	_____
(22) Mortgages (including past due and unpaid taxes)	LR004 Mortgages Column (6) Line (31)	_____
(23) Unaffiliated Preferred Stock	LR005 Unaffiliated Preferred and Common Stock Column (5) Line (10) + LR018 Off-Balance Sheet Collateral Column (3) Line (15)	_____
(24) Affiliated Preferred Stock and Common Stock - Investment Subsidiaries	LR042 Summary for Affiliated Investments Column (4) Line (6)	_____
(25) Affiliated Preferred Stock and Common Stock - Parent	LR042 Summary for Affiliated Investments Column (4) Line (10)	_____
(26) Affiliated Preferred Stock and Common Stock - Property and Casualty Insurers not Subject to Risk-Based Capital	LR042 Summary for Affiliated Investments Column (4) Line (11)	_____
(27) Affiliated Preferred Stock and Common Stock - Life Insurers not Subject to Risk-Based Capital	LR042 Summary for Affiliated Investments Column (4) Line (12)	_____
(28) Affiliated Preferred Stock and Common Stock - Publicly Traded Insurers Held at Fair Value (excess of statement value over book value)	LR042 Summary for Affiliated Investments Column (4) Line (14)	_____
(29) Separate Accounts with Guarantees	LR006 Separate Accounts Column (3) Line (7)	_____

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CALCULATION OF AUTHORIZED CONTROL LEVEL RISK-BASED CAPITAL (CONTINUED)

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Company Name	Source	(1) RBC Requirement
(30) Synthetic GIC's (C-1o)	LR006 Separate Accounts Column (3) Line (8)	_____
(31) Surplus in Non-Guaranteed Separate Accounts	LR006 Separate Accounts Column (3) Line (13)	_____
(32) Real Estate (gross of encumbrances)	LR007 Real Estate Column (3) Line (13)	_____
(33) Schedule BA Real Estate (gross of encumbrances)	LR007 Real Estate Column (3) Line (25)	_____
(34) Other Long-Term Assets	LR008 Other Long-Term Assets Column (5) Line (56) + LR018 Off-Balance Sheet Collateral Column (3) Line (17) + Line (18)	_____
(35) Schedule BA Mortgages	LR009 Schedule BA Mortgages Column (6) Line (23)	_____
(36) Concentration Factor	LR010 Asset Concentration Factor Column (6) Line (62) Grand Total Page	_____
(37) Miscellaneous	LR012 Miscellaneous Assets Column (2) Line (21)	_____
(38) Replication Transactions and Mandatory Convertible Securities	LR013 Replication (Synthetic Asset) Transactions and Mandatory Convertible Securities Column (7) Line (9999999)	_____
(39) Reinsurance	LR016 Reinsurance Column (4) Line (17)	_____
(40) Total (C-1o) - Pre-Tax	Sum of Lines (21) through (39)	_____
(41) (C-1o) Tax Effect	LR030 Calculation of Tax Effect for Life and Fraternal Risk-Based Capital Column (2) Line (109)	_____
(42) Net (C-1o) - Post-Tax	Line (40) - Line (41)	=====
<u>Insurance Risk (C-2)</u>		
(43) Individual <del>and</del> Industrial Life Insurance	LR025 Life Insurance Column (2) Line <del>(8)-(20)</del>	_____
(44) Group <del>and</del> Credit Life Insurance <del>and FEGLI/SGLI</del>	LR025 Life Insurance Column (2) Lines <del>(20) and (21) (42)</del>	_____
(44b) Longevity Risk	LR025-A Longevity Risk Column (2) Line (5)	_____
(45) Total Health Insurance	LR024 Health Claim Reserves Column (4) Line (18)	_____
(46) Premium Stabilization Reserve Credit	LR026 Premium Stabilization Reserves Column (2) Line (10)	_____
(47) Total (C-2) - Pre-Tax	$L(45) + L(46) + \text{Greatest of } [ \text{Guardrail Factor} * (L(43)+L(44)), \text{Guardrail Factor} * L(44b), \text{Square Root of } [ (L(43) + L(44))^2 + L(44b)^2 + 2 * (\text{Correlation Factor}) * (L(43) + L(44)) * L(44b) ] ]$	_____
(48) (C-2) Tax Effect	LR030 Calculation of Tax Effect for Life and Fraternal Risk-Based Capital Column (2) Line (139)	_____
(49) Net (C-2) - Post-Tax	Line (47) - Line (48)	=====
<u>Interest Rate Risk (C-3a)</u>		
(50) Total Interest Rate Risk - Pre-Tax	LR027 Interest Rate Risk Column (3) Line (36)	_____
(51) (C-3a) Tax Effect	LR030 Calculation of Tax Effect for Life and Fraternal Risk-Based Capital Column (2) Line (140)	_____
(52) Net (C-3a) - Post-Tax	Line (50) - Line (51)	=====
<u>Health Credit Risk (C-3b)</u>		
(53) Total Health Credit Risk - Pre-Tax	LR028 Health Credit Risk Column (2) Line (7)	_____
(54) (C-3b) Tax Effect	LR030 Calculation of Tax Effect for Life and Fraternal Risk-Based Capital Column (2) Line (141)	_____
(55) Net (C-3b) - Post-Tax	Line (53) - Line (54)	=====
<u>Market Risk (C-3c)</u>		
(56) Total Market Risk - Pre-Tax	LR027 Interest Rate Risk Column (3) Line (37)	_____
(57) (C-3c) Tax Effect	LR030 Calculation of Tax Effect for Life and Fraternal Risk-Based Capital Column (2) Line (142)	_____
(58) Net (C-3c) - Post-Tax	Line (56) - Line (57)	=====

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

LR031

CALCULATION OF AUTHORIZED CONTROL LEVEL RISK-BASED CAPITAL (CONTINUED)

Confidential when Completed

NAIC Company Code <sup>(1)</sup>  
RBC  
Requirement

Company Name	Source	Requirement
<u>Business Risk (C-4a)</u>		
(59) Premium Component	LR029 Business Risk Column (2) Lines (12) + (24) + (36)	_____
(60) Liability Component	LR029 Business Risk Column (2) Line (39)	_____
(61) Subtotal Business Risk (C-4a) - Pre-Tax	Lines (59) + (60)	_____
(62) (C-4a) Tax Effect	LR030 Calculation of Tax Effect for Life and Fraternal Risk-Based Capital Column (2) Line (143)	_____
(63) Net (C-4a) - Post-Tax	Line (61) - Line (62)	=====
<u>Business Risk (C-4b)</u>		
(64) Health Administrative Expense Component of Business Risk (C-4b) - Pre-Tax	LR029 Business Risk Column (2) Line (57)	_____
(65) (C-4b) Tax Effect	LR030 Calculation of Tax Effect for Life and Fraternal Risk-Based Capital Column (2) Line (144)	_____
(66) Net (C-4b) - Post-Tax	Line (64) - Line (65)	=====
<u>Total Risk-Based Capital After Covariance Before Basic Operational Risk</u>		
(67) $C-0 + C-4a + \text{Square Root of } [(C-1a + C-3a)^2 + (C-1c + C-3c)^2 + (C-2)^2 + (C-3b)^2 + (C-4b)^2]$	REPORT AMOUNT ON PARENT COMPANY'S RBC IF APPLICABLE $L(11)+L(63) + \text{Square Root of } [(L(42) + L(52))^2 + (L(20) + L(58))^2 + L(49)^2 + L(55)^2 + L(66)^2]$	_____
(68) Gross Basic Operational Risk	0.03 x L(67)	_____
(69) C-4a of U.S. Life Insurance Subsidiaries	Company Records	_____
(70) Net Basic Operational Risk	Line (68) - (Line (63) + Line (69)) (Not less than zero)	_____
(71) Primary Security Shortfall Calculated in Accordance With Actuarial Guideline XLVIII Multiplied by 2	LR036 XXX/AXXX Reinsurance Primary Security Shortfall by Cession Column (7) Line (9999999) Multiplied by 2	_____
(72) Total Risk-Based Capital After Covariance (Including Basic Operational Risk and Primary Security Shortfall multiplied by 2)	Line (67) + Line (70) + Line (71)	=====
<u>Authorized Control Level Risk-Based Capital (After Covariance Adjustment and Shortfall)</u>		
(73) Total Risk-Based Capital After Covariance Times Fifty Percent	Line (72) x 0.50	_____
<u>Tax Sensitivity Test</u>		
(74) Tax Sensitivity Test: Total Risk-Based Capital After Covariance	$L(9)+L(61) + \text{Square Root of } [(L(40) + L(50))^2 + (L(18) + L(56))^2 + L(47)^2 + L(53)^2 + L(64)^2]$	_____
(75) Tax Sensitivity Test: Authorized Control Level Risk-Based Capital	Line (74) x 0.50	_____

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

LR031

**LIFE INSURANCE - OPTION 1 - DRAFT**  
 LR025

*Basis of Factors*

The factors chosen developed represent surplus needed to provide for excess claims over life insurance mortality risk, which is defined as adverse variance in life insurance deaths (i.e., insureds dying sooner than expected, both from random fluctuations and from inaccurate pricing for future levels) over the remaining lifetime of claims. For a large number block of trials, each insured either lives or dies based on a "roll of the dice" business while appropriately reflecting the probability of death from both normal and excess claims pricing flexibility to adjust current mortality rates for emerging experience. The present value of mortality risks included in the claims generated by this process, less expected claims, will be the amount of surplus needed under that trial development of the factors were volatility, level, trend, and catastrophe. The factors chosen under were developed by stochastically simulating the formula produce a level of surplus at least as much run-off of in force life insurance blocks typical of U.S. life insurers.

The capital need, expressed as needed in 95 percent of a dollar amount, is determined as the trials-greatest present value of accumulated deficiencies at the 95<sup>th</sup> percentile of the stochastic distribution of scenarios over the remaining lifetime of a block of business while appropriately reflecting the pricing flexibility to adjust current mortality rates. Statutory losses are defined as the after-tax quantification of gross death benefits minus reserves released minus mortality margin present in reserves. The after-tax statutory losses are discounted to the present by using 20-year averages for U.S. swap rates. By selecting the largest present value accumulated loss across all projection years, the solved for capital ensures non-negative capital at all projection periods. Earlier period losses are not allowed to be offset by later period gains to reduce capital. The 95<sup>th</sup> percentile is the commonly accepted statistical safety level used for Life RBC C-2 mortality risk to identify weakly capitalized companies. The after-tax capital needs are translated to a factor expressed as a percentage of the net amount at risk (NAR). The pre-tax factor is determined by taking the after-tax factor divided by (1 minus the tax rate).

The model was developed for portfolios of 10,000, 100,000 and one million lives, and it was found that the surplus needs decreased with larger portfolios, consistent with the law of large numbers.

Net amount at risk was chosen as a base because expected claims are difficult to calculate on a consistent basis from company to company. The factors are differentiated between individual & industrial life and group & credit life, and by in force block size. Within individual & industrial life, the factors are differentiated into categories for universal life with secondary guarantees (ULSG), term life, and all other life. Within group & credit life, the factors are differentiated into categories by the remaining length of the premium rate term by group contract. There are distinct factors for contracts that have remaining premium rate terms 36 months and under and for contracts that have remaining premium rate terms over 36 months. The Federal Employees' Group Life Insurance (FEGLI) and Servicemembers' Group Life Insurance (SGLI) receive a separate factor applied to the amounts in force.

*Specific Instructions for Application of the Formula*

Lines 3, 42, 5 and 9-21-41 are not applicable to Fraternal Benefit Societies.

Annual statement reference is for the total net amount at risk for the category (e.g., Individual & Industrial is one category). The net amount at risk is then further broken down by size as in a tax table to reflect the decrease in risk for larger blocks of life insurance. This breakdown will not appear on the RBC filing software or on the printed copy, as the application of factors to amounts in force is completed automatically. The calculation is as follows:

The NAR is derived for each of the factor categories using annual statement sources and company records. In Force and Reserves amounts are net of reinsurance throughout.

Line (11) ULSG In Force is derived from company records. The amount classified as ULSG needs to be consistent with the Exhibit of Life Insurance and the same block of policies as the ULSG reserves recorded in Line (12) which is sourced to the Analysis of Increase in Reserves During the Year – Individual Life Insurance Column 7 Line 15. The table below illustrates the RBC requirement calculation embedded in Line (13) for ULSG.

Line	(1) Statement Value	Factor	(2) RBC Requirement
Individual & Industrial	ULSG		

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<u>(813)</u>	First 500 Million	_____	X 0.0022300390	_____
			=	
	Next 424,500 Million	_____	X 0.0014600165	_____
			=	
	<del>Next 20,000 Million</del>	=====	<del>X 0.00116=</del>	=====
	Over 25,000 Million	_____	X 0.0008700110	_____
			=	
	Total Individual & Industrial ULSG Net Amount at Risk	=====		=====

<u>Line (20)</u>	<u>Group &amp; Credit</u>	<u>Statement Value</u>	<u>Factor</u>	<u>RBC Requirement</u>
	First 500 Million	_____	X 0.00175 =	_____
	Next 4,500 Million	_____	X 0.00116 =	_____
	Next 20,000 Million	_____	X 0.00087 =	_____
	Over 25,000 Million	_____	X 0.00078 =	_____

Line (14) Term Life In Force is derived from company records. The amount classified as Term Life needs to be consistent with the Exhibit of Life Insurance and the same block of policies as the Term reserves recorded in Line (15) which is sourced to the Analysis of Increase in Reserves During the Year – Individual Life Insurance Column 4 Line 15. The table below illustrates the RBC requirement calculation embedded in Line (16) for Term Life.

<u>Line (16)</u>	<u>Term Life</u>	<u>(1)</u> <u>Statement Value</u>	<u>Factor</u>	<u>(2)</u> <u>RBC Requirement</u>
	First 500 Million	_____	X 0.00270 =	_____
	Next 24,500 Million	_____	X 0.00110 =	_____
	Over 25,000 Million	_____	X 0.00075 =	_____
	Total Group & Credit Term Life Net Amount at Risk (less FEGLI & SGLI in force)	=====		=====

Lines (17) and (18) All Other Life In Force and Reserves are derived from the aggregate amounts derived in lines (1) to (10) minus the ULSG amounts in lines (11) to (12) and term life amounts in lines (14) to (15). In force business not classified as ULSG or term life is assigned to all other life. The table below illustrates the RBC requirement calculation embedded in Line (19) for All Other Life.

<u>Line (19)</u>	<u>All Other Life</u>	<u>(1)</u> <u>Statement Value</u>	<u>Factor</u>	<u>(2)</u> <u>RBC Requirement</u>
	First 500 Million	_____	X 0.00190 =	_____
	Next 24,500 Million	_____	X 0.00075 =	_____
	Over 25,000 Million	_____	X 0.00050 =	_____
	Total All Other Life Net Amount at Risk	=====		=====

Lines (35) and (36) Group & Credit Life In Force and Reserves with Remaining Rate Terms 36 Months and Under are derived from company records. This category includes group contracts where the premium terms have 36 months or fewer until expiration or renewal. The in force amount classified in this category needs to be consistent with the Exhibit of Life Insurance. The reserves amount classified in this category needs to be consistent with Exhibit 5 used for Lines (28) and (29), Separate Accounts Exhibit used for Line (30), and Schedule S used for Lines (31) and (32). Federal Employees' Group Life Insurance (FEGLI) and Servicemembers' Group Life Insurance (SGLI) contracts are

excluded. The table below illustrates the RBC requirement calculation embedded in Line (37) for Group & Credit Life Net Amount at Risk with Remaining Rate Terms 36 Months and Under.

Line (37)	Group & Credit Life with Remaining Rate Terms 36 Months and Under	(1) Statement Value	Factor	(2) RBC Requirement
	First 500 Million	_____	X 0.00130 =	_____
	Next 24,500 Million	_____	X 0.00045 =	_____
	Over 25,000 Million	_____	X 0.00030 =	_____
	Total Group & Credit Life Net Amount at Risk with Remaining Rate Terms 36 Months and Under	_____		_____

Lines (38) and (39) Group & Credit Life In Force and Reserves with Remaining Rate Terms Over 36 Months are derived from the aggregate amounts derived in lines (21) to (34) minus the Group & Credit Life In Force and Reserves with Remaining Rate Terms 36 Months and Under in lines (35) and (36). FEGLI and SGLI contracts are excluded. The table below illustrates the RBC requirement calculation embedded in Line (40) for Group & Credit Life Net Amount at Risk with Remaining Rate Terms Over 36 Months.

Line (40)	Group & Credit Life with Remaining Rate Terms Over 36 Months	(1) Statement Value	Factor	(2) RBC Requirement
	First 500 Million	_____	X 0.00180 =	_____
	Next 24,500 Million	_____	X 0.00070 =	_____
	Over 25,000 Million	_____	X 0.00045 =	_____
	Total Group & Credit Life Net Amount at Risk with Remaining Rate Terms Over 36 Months	_____		_____

Line (41) FEGLI/SGLI In Force amounts are retrieved from the Exhibit of Life Insurance. The capital factor assigned is the same as the largest size band for group & credit life contracts with remaining rate terms 36 months and under

Line (41)	FEGLI/SGLI In Force	(1) Statement Value	Factor	(2) RBC Requirement
		_____	X 0.00030 =	_____

All amounts should be entered as required. The risk-based capital software will calculate the RBC requirement for individual and industrial and for group and credit.

**LIFE INSURANCE - OPTION 2 - DRAFT**  
LR025

*Basis of Factors*

The factors chosen developed represent surplus needed to provide for excess claims over life insurance mortality risk, which is defined as adverse variance in life insurance deaths (i.e., insureds dying sooner than expected, both from random fluctuations and from inaccurate pricing for future levels) over the remaining lifetime of claims. For a large number block of trials, each insured either lives or dies based on a "roll of the dice" business while appropriately reflecting the probability of death from both normal and excess claims pricing flexibility to adjust current mortality rates for emerging experience. The present value of mortality risks included in the claims generated by this process, less expected claims, will be the amount of surplus needed under that trial development of the factors were volatility, level, trend, and catastrophe. The factors chosen under were developed by stochastically simulating the formula produce a level of surplus at least as much run-off of in force life insurance blocks typical of U.S. life insurers.

The capital need, expressed as needed in 95 percent of a dollar amount, is determined as the trials-greatest present value of accumulated deficiencies at the 95<sup>th</sup> percentile of the stochastic distribution of scenarios over the remaining lifetime of a block of business while appropriately reflecting the pricing flexibility to adjust current mortality rates. Statutory losses are defined as the after-tax quantification of gross death benefits minus reserves released minus mortality margin present in reserves. The after-tax statutory losses are discounted to the present by using 20-year averages for U.S. swap rates. By selecting the largest present value accumulated loss across all projection years, the solved for capital ensures non-negative capital at all projection periods. Earlier period losses are not allowed to be offset by later period gains to reduce capital. The 95<sup>th</sup> percentile is the commonly accepted statistical safety level used for Life RBC C-2 mortality risk to identify weakly capitalized companies. The after-tax capital needs are translated to a factor expressed as a percentage of the net amount at risk (NAR). The pre-tax factor is determined by taking the after-tax factor divided by (1 minus the tax rate).

The model was developed for portfolios of 10,000, 100,000 and one million lives, and it was found that the surplus needs decreased with larger portfolios, consistent with the law of large numbers.

Net amount at risk was chosen as a base because expected claims are difficult to calculate on a consistent basis from company to company. The factors are differentiated between individual & industrial life and group & credit life, and by in force block size. Within individual & industrial life, the factors are differentiated into categories by contract type depending on the degree of pricing flexibility. Within group & credit life, the factors are differentiated into categories by the remaining length of the premium rate term by group contract. There are distinct factors for contracts that have remaining premium rate terms 36 months and under and for contracts that have remaining premium rate terms over 36 months. The Federal Employees' Group Life Insurance (FEGLI) and Servicemembers' Group Life Insurance (SGLI) receive a separate factor applied to the amounts in force.

*Specific Instructions for Application of the Formula*

Lines 3, 42, 5 and 9-21-41 are not applicable to Fraternal Benefit Societies.

Annual statement reference is for the total net amount at risk for the category (e.g., Individual & Industrial is one category). The net amount at risk is then further broken down by size as in a tax table to reflect the decrease in risk for larger blocks of life insurance. This breakdown will not appear on the RBC filing software or on the printed copy, as the application of factors to amounts in force is completed automatically. The calculation is as follows:

The NAR is derived for each of the factor categories using annual statement sources and company records. In Force and Reserves amounts are net of reinsurance throughout. The In Force amounts throughout derived from company records need to be consistent with the Exhibit of Life Insurance. The Reserves amounts throughout derived from company records need to be consistent with Exhibit 5, Separate Accounts Exhibit, and Schedule S.

Pricing Flexibility for Individual Life Insurance is defined as the ability to materially adjust rates on in force contracts through changing premiums and/or non-guaranteed elements as of the valuation date and within the next 5 policy years. A material rate adjustment is defined as the ability to recover, on a present value basis, the difference in mortality provided for in the factors below for contracts with and without pricing flexibility.

Lines (11) and (12) Life Policies with Pricing Flexibility In Force and Reserves are derived from company records. Examples of products intended for this category include, but aren't limited to, participating whole life insurance, universal life insurance without secondary guarantees, and yearly renewable term insurance where scheduled premiums may be changed. The table below illustrates the RBC requirement calculation embedded in Line (13) for Life Policies with Pricing Flexibility.

	(1)	(2)
Line (813) Individual & Industrial Life Policies with Pricing Flexibility	Statement Value	RBC Requirement
First 500 Million	X 0.0022300190	
Next 424,500 Million	X 0.0014600075	
Next 20,000 Million	X 0.00116	
Over 25,000 Million	X 0.0008700050	
<b>Total Individual &amp; Industrial Life Policies with Pricing Flexibility Net Amount at Risk</b>		

Line (20) Group & Credit	Statement Value	Factor	RBC Requirement
First 500 Million		X 0.00175 =	
Next 4,500 Million		X 0.00116 =	
Next 20,000 Million		X 0.00087 =	
Over 25,000 Million		X 0.00078 =	

Lines (14) and (15) Term Life Policies without Pricing Flexibility In Force and Reserves are derived from company records. Examples of products intended for this category include, but aren't limited to, level term insurance with guaranteed level premiums and yearly renewable term insurance where scheduled premiums may not be changed. The table below illustrates the RBC requirement calculation embedded in Line (16) for Term Life Policies without Pricing Flexibility.

	(1)	(2)
Line (16) Term Life Policies without Pricing Flexibility	Statement Value	RBC Requirement
First 500 Million	X 0.00270 =	
Next 24,500 Million	X 0.00110 =	
Over 25,000 Million	X 0.00075 =	
<b>Total Group &amp; Credit Term Life Policies without Pricing Flexibility Net Amount at Risk (less FEGLI &amp; SGLI in force)</b>		

Lines (17) and (18) Permanent Life Policies without Pricing Flexibility In Force and Reserves are derived from the aggregate amounts derived in lines (1) to (10) minus the amounts recorded in the other individual life categories. Examples of products intended for this category include, but aren't limited to, universal life with secondary guarantees and non-participating whole life insurance. Policies that aren't recorded in the other individual life categories default to this category which has the highest factors. The table below illustrates the RBC requirement calculation embedded in Line (19) for Permanent Life Policies without Pricing Flexibility.

	(1)	(2)
Line (19) Permanent Life Policies without Pricing Flexibility	Statement Value	RBC Requirement
First 500 Million	X 0.00390 =	

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<u>Next 24,500 Million</u>	_____	X 0.00165 =	_____
<u>Over 25,000 Million</u>	_____	X 0.00110 =	_____
<u>Total Permanent Life Policies without Pricing Flexibility</u>	_____		_____
<u>Net Amount at Risk</u>			

Lines (35) and (36) Group & Credit Life In Force and Reserves with Remaining Rate Terms 36 Months and Under are derived from company records. This category includes group contracts where the premium terms have 36 months or fewer until expiration or renewal. The in force amount classified in this category needs to be consistent with the Exhibit of Life Insurance. The reserves amount classified in this category needs to be consistent with Exhibit 5 used for Lines (28) and (29), Separate Accounts Exhibit used for Line (30), and Schedule S used for Lines (31) and (32). Federal Employees' Group Life Insurance (FEGLI) and Servicemembers' Group Life Insurance (SGLI) contracts are excluded. The table below illustrates the RBC requirement calculation embedded in Line (37) for Group & Credit Life Net Amount at Risk with Remaining Rate Terms 36 Months and Under.

<u>Line (37)</u>	<u>Group &amp; Credit Life with Remaining Rate Terms 36 Months and Under</u>	(1) <u>Statement Value</u>	<u>Factor</u>	(2) <u>RBC Requirement</u>
	<u>First 500 Million</u>	_____	X 0.00130 =	_____
	<u>Next 24,500 Million</u>	_____	X 0.00045 =	_____
	<u>Over 25,000 Million</u>	_____	X 0.00030 =	_____
	<u>Total Group &amp; Credit Life Net Amount at Risk with Remaining Rate Terms 36 Months and Under</u>	_____		_____

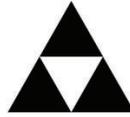
Lines (38) and (39) Group & Credit Life In Force and Reserves with Remaining Rate Terms Over 36 Months are derived from the aggregate amounts derived in lines (21) to (34) minus the Group & Credit Life In Force and Reserves with Remaining Rate Terms 36 Months and Under in lines (35) and (36). FEGLI and SGLI contracts are excluded. The table below illustrates the RBC requirement calculation embedded in Line (40) for Group & Credit Life Net Amount at Risk with Remaining Rate Terms Over 36 Months.

<u>Line (40)</u>	<u>Group &amp; Credit Life with Remaining Rate Terms Over 36 Months</u>	(1) <u>Statement Value</u>	<u>Factor</u>	(2) <u>RBC Requirement</u>
	<u>First 500 Million</u>	_____	X 0.00180 =	_____
	<u>Next 24,500 Million</u>	_____	X 0.00070 =	_____
	<u>Over 25,000 Million</u>	_____	X 0.00045 =	_____
	<u>Total Group &amp; Credit Life Net Amount at Risk with Remaining Rate Terms Over 36 Months</u>	_____		_____

Line (41) FEGLI/SGLI In Force amounts are retrieved from the Exhibit of Life Insurance. The capital factor assigned is the same as the largest size band for group & credit life contracts with remaining rate terms 36 months and under.

<u>Line (41)</u>	<u>FEGLI/SGLI In Force</u>	(1) <u>Statement Value</u>	<u>Factor</u>	(2) <u>RBC Requirement</u>
		_____	X 0.00030 =	_____

All amounts should be entered as required. The risk-based capital software will calculate the RBC requirement for individual and industrial and for group and credit.



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December 21, 2021

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

Via email: Dave Fleming ([dfleming@naic.org](mailto:dfleming@naic.org))  
Re: Longevity Risk Subgroup working agenda item on Longevity Reinsurance

Dear Seong-Min,

The American Academy of Actuaries<sup>1</sup> (Academy) Annuity Reserves and Capital Work Group (ARCWG) recently shared with the Valuation Manual (VM)-22 (A) Subgroup an initial draft of NAIC Valuation Manual Section II and recommended VM-22 requirements associated with the ARCWG proposal on a principle-based reserving (PBR) framework for fixed annuities.<sup>2</sup> The Academy's C-2 Longevity Risk Work Group is providing its observations on implications this reserve proposal may have on the expansion of the scope for C-2 Longevity capital to include longevity reinsurance contracts. To summarize:

1. Longevity reinsurance is explicitly included in the scope of the ARCWG VM-22 draft;
2. Reserve aggregation, as included in the VM-22 draft, could facilitate a simple approach to including longevity reinsurance in C-2 using the same factors that currently apply to other fixed annuities; and
3. The C-2 capital approach for longevity reinsurance business written prior to the VM-22 effective date will require further study and recommendation by the Longevity Risk (E/A) Subgroup.

As you may recall, longevity reinsurance contracts were excluded from the scope of the year-end 2021 implementation of C-2 Longevity within Life Risk-Based Capital (LRBC) given the need for further discussion on appropriate capital methodology given product differences compared to payout annuities. Longevity reinsurance is explicitly included in the scope of ARCWG's VM-22 draft. Progress on these reserve requirements may provide an opportunity to concurrently advance the discussion on C-2 capital.

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<sup>1</sup> The American Academy of Actuaries is a 19,500-member professional association whose mission is to serve the public and the U.S. actuarial profession. For more than 50 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.

<sup>2</sup> [https://www.actuary.org/sites/default/files/2021-07/ARCWG\\_VM\\_22\\_Draft\\_Proposal\\_July\\_2021\\_Combined.pdf](https://www.actuary.org/sites/default/files/2021-07/ARCWG_VM_22_Draft_Proposal_July_2021_Combined.pdf)

As described in the VM-22 product definition, the reinsurer assumes the longevity risk associated with the periodic payments of the reinsured annuity contract(s). In general, the reinsurer is responsible for paying the periodic annuity payments based on actual longevity experience of the underlying population in exchange for a fixed schedule of periodic payments over the expected lifetime of the underlying annuitants. Such contracts may include net settlement provisions such that only one party makes a payment in any particular period.

The field study, which was conducted in 2018 and used to calibrate the current C-2 Longevity factors, did not include results for longevity reinsurance since there were not enough responses for companies reporting results for the product to allow for aggregated data. As a result, the Academy’s C-2 Longevity Risk Work Group is not currently able to calibrate a capital factor based on results specific to the reinsurance product. Because this reinsurance transfers the longevity risk associated with immediate and/or deferred payout annuity products that are already in scope for C-2 Longevity, it seems reasonable to postulate that the longevity risk of a longevity reinsurance contract would be consistent with the longevity risk of the underlying annuity contract prior to reinsurance.

The periodic premium payments drive important differences in reserves compared to single premium payout annuity products. On a stand-alone product basis, the VM-22 stochastic reserve for longevity reinsurance could be quite low because the present value of annuity payments under prudent estimate mortality may not materially exceed the present value of premiums. If longevity reinsurance is aggregated with other products in calculating the stochastic reserve as permitted under the VM-22 draft, the inclusion of longevity reinsurance in the aggregation could in some cases act to reduce the aggregate reserve if the longevity reinsurance premiums exceed the annuity benefits under the prudent estimate reserve assumptions. The Academy’s C-2 Longevity Risk Work Group believes this is an appropriate though potentially surprising result that should be clearly understood. Listed below is a hypothetical illustration of reserve results under aggregation.

	Present Value of Future Premium	Present Value of Future Benefits	Reserve
Immediate Annuities	N/A	1,500	
Longevity Reinsurance Assumed	1,010	1,000	
	<b>1,010</b>	<b>2,500</b>	<b>1,490</b>

In this hypothetical illustration, the future longevity reinsurance premiums exceed future benefit payments, so the aggregate reserve—1,490—is less than the reserve that would have been calculated for the immediate annuities on a stand-alone basis—1,500. (The subsequent allocation of the 1,490 aggregate reserve to the contract level is not shown in this illustration.)

A simple approach to including longevity reinsurance within the scope of C-2 Longevity capital is to apply the existing capital factors to the present value of benefits for longevity reinsurance in addition to the existing reserve basis for products in scope. The ARCWG VM-22 draft as written would reflect the entire longevity reinsurance gross premium in the aggregated reserve calculation so no adjustment for premiums would be required in capital. Continuing the hypothetical illustration above, this would result in a total company basis for C-2 Longevity of 2,490:

Reserve for Products In Scope for Longevity C-2	1,490
Present Value of Benefits for Longevity Reinsurance	1,000
<b>Total Basis for C-2 Longevity</b>	<b>2,490</b>

The ARCWG VM-22 draft is written to apply prospectively to contracts issued after Jan. 1, 2024, so it does not address reserving for longevity reinsurance contracts issued before this date. The capital approach above may need to be reconsidered depending on the reserving method for these existing contracts. This retrospective issue may only apply to a small number of companies based on the low response rate for the product in the 2018 field study but will also need to be considered by the Longevity Risk Subgroup as part of the expansion of scope for C-2 Longevity.

The Academy’s C-2 Longevity Risk Work Group supports the proposal of the ARCWG, which includes an aggregate calculation of reserves. However, if aggregation of longevity reinsurance with other jointly managed annuity business is ultimately not included in the final VM-22 language (or when considering the retrospective application to contracts issued prior to Jan. 1, 2024, which may use different reserve methods), then it seems likely that a portion of the gross premium under the longevity reinsurance contracts could be excluded from the reserve calculation in order to ensure a reserve greater than zero. In that situation there would be two broad paths forward for C-2 capital:

- A) **Continue to use present value of benefits as the basis for longevity reinsurance along with the same C-2 capital factor.** This approach could result in a portion of the gross reinsurance premium being excluded from both the reserve and capital calculations. This could be deemed acceptable within the context of RBC as a simple factor-based calculation for regulatory capital carried out independent of reserves. However, it would be inconsistent with a Total Asset Requirement (TAR) view of reserves and capital together achieving a consistent outcome (such as 95<sup>th</sup> percentile) across products and could result in the TAR for longevity reinsurance being overstated by the amount of any gross premium that is excluded.
- B) **Consider an adjusted capital factor specific to longevity reinsurance that takes into account premium amounts not included in reserves.** It might not be possible to calibrate a single factor that would be appropriate to apply to all longevity reinsurance contracts written at different times with different premium levels and with different emerging experience. It could be possible to include a calculation of a more appropriate adjusted factor within the C-2 Longevity calculation at a company level; however, this would be more complicated than the factor times reserve approach currently used for C-2 Longevity.

Life insurance is an example of a product that also includes recurring premium payments. Under a net premium reserving methodology, a portion of the gross premium is excluded from reserves, yet no adjustment for this is required in capital. There are several key differences for longevity reinsurance that could merit consideration of the gross premium in reserves and/or capital:

- Future premium payments for longevity reinsurance are a contractual obligation that in some cases may be supported by collateral posted as security against default. Future life

insurance premiums by contrast are voluntary with a contract holder right to lapse at any time.

- In a mortality risk event for life insurance (premature death), premium payments for a contract cease and are not received by the insurer. By contrast, under a longevity reinsurance risk event (extended longevity), premium payments for a contract continue in their entirety and are netted in full against future benefit obligations.

The impact on C-2 Longevity for companies ceding risk through longevity reinsurance should also be addressed. This could be achieved by clarifying the existing adjustment for modified coinsurance (Modco) reserves ceded to also include reserves for which longevity risk is ceded via longevity reinsurance contracts.

It may not be appropriate to exclude longevity risk transferred by reinsurance from scope of C-2 Longevity while including in scope payout annuity products having the same longevity risk. The Academy's C-2 Longevity Risk Work Group looks forward to supporting the Longevity Risk Subgroup in completing the implementation of C-2 Longevity to include longevity reinsurance.

\*\*\*\*\*

Should you have any questions or comments regarding this letter, please contact Khloe Greenwood, life policy analyst at the Academy ([greenwood@actuary.org](mailto:greenwood@actuary.org)).

Sincerely,

Paul Navratil, MAAA, FSA  
Chairperson, C-2 Longevity Risk Work Group  
American Academy of Actuaries

Draft: 3/16/22

Life Risk-Based Capital (E) Working Group  
Virtual Meeting  
December 16, 2021

The Life Risk-Based Capital (E) Working Group of the Capital Adequacy (E) Task Force met Dec. 16, 2021. The following Working Group members participated: Philip Barlow, Chair (DC); Chuck Hale (AL); Thomas Reedy (CA); Wanchin Chou (CT); Sean Collins (FL); Mike Yanacheak (IA); Vincent Tsang (IL); Fred Andersen (MN); William Leung (MO); Derek Wallman (NE); Seong-min Eom (NJ); Bill Carmello (NY); Andrew Schallhorn (OK); Mike Boerner and Rachel Hemphill (TX); and Tomasz Serbinowski (UT).

1. Adopted the Guidance Document on Bond Factor Changes

Brian Bayerle (American Council of Life Insurers—ACLI) said the ACLI believes the document will be helpful to regulators and supports its adoption with the inclusion of the reference to other changes made for yearend 2021. Mr. Yanacheak made a motion, seconded by Mr. Leung, to adopt the Working Group's guidance document on bond factor changes (Attachment Four-C1). The motion passed unanimously.

2. Continued Discussion of the Report of the C2 Mortality Work Group of the Academy

Chris Trost (American Academy of Actuaries—Academy), chair of the Academy's C2 Mortality Work Group, highlighted the main changes that the Academy is recommending is to expand the number of categories in the current structure which applies a factor to the net amount at risk (NAR) which decreases as the NAR increases. The Academy believes a critical element in capturing the risk is the length of the exposure period where there is not the capacity to adjust the mortality charges and because of that, he said the Academy created three categories using VM-20 as a guide with term, universal life with secondary guarantees (ULSG) and all other. The all-other category maintains the same period that the original RBC work used which is looking at the mortality risk over a five-year period because beyond that time the risk could be covered through adjustments and mortality rates. Mr. Trost said the exposure period lasts much longer for term and ULSG and the Academy used averages of 10 years for term and 20 years for ULSG. He said the Academy also added a catastrophe terrorism component and a catastrophe unknown sustained risk component. He discussed other aspects that were changed and those that were not changed as shown on page six of the recommendation (Attachment Four-C2). Ryan Fleming (Academy) presented the updated C-2 factors, other aspects of the categorization and a comparison of the recommended factors versus the current factors along with the percentage change in those factors. He discussed the C-2 factors as an overall mortality increase along with the Academy's comparison against other capital regimes. He highlighted the Academy's sensitivity testing which helped in identifying that the length of the mortality rate exposure period is one of the most critical variables in determining capital factors. He summarized the Academy's recommendation and noted that the Academy does not believe that additional review of the adopted correlation factor with longevity is needed as the work on mortality was done consistently with the longevity work.

With respect to the Academy's pandemic modeling, Ms. Hemphill noted what appeared to be one-year events and asked whether having another component to account for multi-year events was considered. Mr. Trost said the Academy was capturing a multi-year event but modeling it occurring in one year. He also noted that the Academy looked at the actual impacts of unknown sustained risks, specifically with the opioid epidemic and AIDS, and those impacts were significantly less in the insured population than the general population, but the Academy did not reflect this in its recommendation. For those sustained type risks, he said the Academy also included the assumption that the worst experience was the same at all ages which adds another level of conservatism. Ms. Hemphill expressed concern with the factor decrease for the all-other category given how non-homogenous the products are in the ability to adjust and suggested the possibility of addressing this either through revising the factors presented or adding some regulatory review process. Mr. Carmello suggested having products without the ability to adjust default the categories with higher factors and not the all-other category. Mr. Barlow said another approach could be to set the factors for the all-other category to whatever is appropriate for the product involving the most risk.

Mr. Barlow said the Academy will be working with NAIC staff on the needed structural changes so they can be exposed for comment before the end of January.

Having no further business, the Life Risk-Based Capital (E) Working Group adjourned.

[MinutesGuide.docx](#)



## NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

### MEMORANDUM

TO: Financial Examiners and Other State Insurance Regulators

FROM: Philip Barlow, Chair of the Life Risk-Based Capital (E) Working Group

DATE: Dec. 16, 2021

RE: Interpretation of the 2021 Life Risk-Based Capital (RBC) Results in Light of the 2021 Bond Factor Changes

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#### ***Purpose and Intended Audience for this Document***

This document is intended to assist financial examiners and other state insurance regulators as they review the results of 2021 RBC calculations for life insurers in light of the 2021 bond factor changes. There were also changes related to longevity risk, real estate and reinsurance that state insurance regulators may want to consider but this document is specifically addressing the bond factor changes as they have the most potential to impact the action level, including through the trend test.

More detailed information about this topic is contained in the minutes of the Life Risk-Based Capital (E) Working Group, and related documents are included on the websites for both the Working Group and the Capital Adequacy (E) Task Force. The changes to the Life RBC formula factors for bonds were adopted by the Working Group on June 11 and by the Task Force on June 30.

#### ***Executive Summary***

The work to update the RBC charges applied to bonds has been ongoing for several years and reflects the efforts of many participants. The Working Group appreciates the considerable work of the American Academy of Actuaries (Academy) on this project, as well as the work done by Moody's Analytics on behalf of the American Council of Life Insurers (ACLI). The Working Group discussed the proposals presented during numerous conference calls over the past year. The Working Group also reviewed estimates of the impact the proposals would have had on the RBC results for life insurers' year-end 2020 filings. The Working Group concluded that both proposals presented a sound and appropriate update to the factors applied to bonds, and it ultimately adopted the proposal presented by Moody's.

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## NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

### ***How should the effects of the change in bond factors be factored into the interpretation of RBC results?***

The estimated impact of the change in bond factors the Working Group reviewed on individual companies and the life insurance industry in aggregate indicated less than a 2% increase in the authorized control level (ACL) RBC on an aggregate basis. However, a small number of companies experienced a much larger impact when the 2019 results were recalculated with the new factors. The Life RBC Trend Test (LR035) will be affected by the change in bond factors and may be an area where this change is most evident. The Trend Test calculates a margin, which is the excess of total adjusted capital (TAC) over ACL RBC, for each of the current year, prior year, and third prior year. To the extent that the current year margin is lower than the prior year or third prior year margin, regulatory action may be indicated.

For the 2021 Trend Test, the margin for 2021 is compared to the margins for 2020 and 2018. As noted, a company's ACL RBC is expected to be increased for 2021 compared to prior years. The changes to ACL RBC due to the change in bond factors may cause some companies to trigger the Trend Test for 2021, solely because of the change in bond factors.

If state insurance regulators find that a life insurer has triggered the Trend Test, triggers an Action Level for 2021, or has a significant decline in its RBC ratio from 2020 to 2021, they could have additional discussions with the company and request additional calculations. It is likely that companies would have done some analysis of significant changes in ACL RBC, and that analysis could be shared with state insurance regulators.

# Academy C-2 Mortality Work Group Recommendation

Chris Trost, MAAA, FSA  
Chairperson C-2 Mortality Work Group

Ryan Fleming, MAAA, FSA  
Vice Chair C-2 Mortality Work Group  
American Academy of Actuaries



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National Association of Insurance Commissioners (NAIC) Life Risk-Based Capital (E) Working  
Group (LRBCWG)—November 9, 2021

## Agenda

- Review Life RBC C-2 mortality overall approach and current risk-based capital (RBC) factors
- Present recommendation on updated C-2 factors
  - Structural changes to factor categories
  - Updated factors under the recommended structure
- Appendix:
  - Methodology, assumption, and risk distribution comparisons
  - Validation, peer review, limitations

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## Life RBC C-2 Mortality Overall Approach (1 of 2)

- Mortality risk is defined as adverse variance in life insurance deaths (i.e., insureds dying sooner than expected) over the remaining lifetime of a block of business while appropriately reflecting the pricing flexibility to adjust current mortality rates for emerging experience
- C-2 requirement covers mortality risk up to the 95<sup>th</sup> percentile covering adverse experience in excess of the amount covered in statutory reserves
- C-2 requirement includes mortality risks related to:
  - Volatility Risk—natural statistical deviations in experienced mortality
  - Level Risk—error in experience mortality assumption
  - Trend Risk—adverse mortality trend
  - Catastrophe Risks
    - Large temporary mortality increase from a severe event such as a pandemic or terrorism
    - Sustained mortality increase from an unknown risk

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## Life RBC C-2 Mortality Overall Approach (2 of 2)

- Evaluate mortality risks using stochastic simulation of projected statutory losses
- Discount after-tax cash flows (at 2.765% after-tax discount rate [3.5% pre-tax])
- Express capital requirement using a factor-based approach applied to Net Amount at Risk (NAR) and convert to pre-tax

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## C-2 Life Mortality Risk-Based Capital

Per \$1000 of NAR	Current Pre-Tax RBC Factors	
	Individual & Industrial Life	Group & Credit Life
First \$500M	2.23	1.75
Next \$4.5B	1.46	1.16
Next \$20B	1.17	0.87
>\$25B	0.87	0.78

- The C-2 component of RBC represents 17-18% of total life industry risk-based capital

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## What Changed and Didn't Change from the Original Work\*

### What Changed

- Expanded categories to three product categories for individual life and two categories for remaining rate terms for group life
- Addition of a catastrophe terrorism component
- Addition of a catastrophe unknown sustained risk component, replaces severe adverse HIV scenarios in original work
- Lower experience mortality rates
- Lower discount rates (2.765% after-tax versus 6% in original work)
- Inforce assumptions reflecting current U.S. life insurers (demographic, product, lapses, etc.) and group specific assumptions
- Mortality risk assumptions calibrated to latest research and studies
- New model developed in Excel VBA; stochastic capabilities are much greater today than the early 1990's

### What Didn't Change

- Statistical safety level – 95<sup>th</sup> percentile over 5 years for individual life products with inforce pricing flexibility
- Capital is determined for losses in excess of reserve mortality – 5% margin in statutory reserve mortality is consistent with one standard deviation

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\* See the Appendix for a detailed comparison of the current and original work



## Pre-Tax C-2 Factor Recommendation versus Current RBC

Risk Component	Large Inforce Size >\$25B NAR	Small Inforce Size ≤\$500M NAR	Key Updates
HIV Scenarios	↓ 45%	↓ 25%	- Removal of discrete HIV scenarios
Level	↓ 25%	↑ 5%	- Lower experience mortality rates, reducing risk with large credible blocks
Trend	↑ 20%	↑ 10%	- Greater range of mortality trends and differences by age/sex cohort - Risk increases with longer exposure periods
Catastrophe	↑ 10%	↑ 5%	- Similar pandemic severity - Addition of 9/11-type terrorism event (+1%) - Addition of unknown sustained risk event (+4.9%)
Capital Quantification Method	↑ 10%	↑ 5%	- Update to greatest present value of accumulated deficiencies (GPVAD) - Loss quantified as death benefits minus reserves released
Volatility	↑ 0%	↓ 5%	- Similar results as the original model
Length of Risk Exposure Period	↑ varies	↑ varies	- Factors increase based on the length of the current mortality rate risk exposure period - This is a critical variable for differentiating mortality risk

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## Lower Experience Mortality Rates

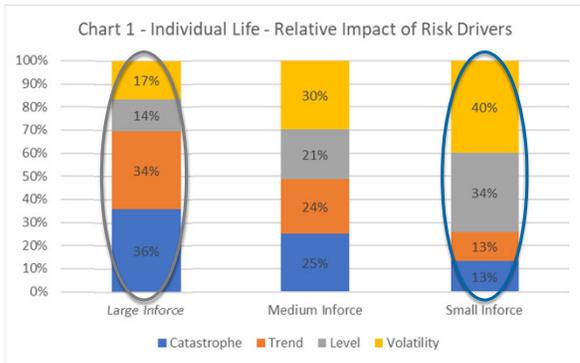
- The new model uses a distribution of rating classes using 2017 CSO tables
- 2017 Commissioners Standard Ordinary (CSO) mortality rates are significantly lower (50%-90%) than “88% of the 1975-80 Basic Table” used previously due to decades of mortality improvement in the U.S.
- An example at a typical age highlights the significant decrease

Comparison of Experience Mortality Rates, Example	
Rates Per 1,000	
Age 45, Male	
Table	Duration 1
88% of 1975-80 Basic Table	1.08
2017 CSO Unloaded Composite	0.48
<i>% Difference</i>	<i>-56%</i>

- Similar % decreases also occur at different gender, ages and underwriting classes
- Experience mortality manifests through the level risk component

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## C-2 Factor Attribution by Mortality Risk Individual Life - 5-Year Projection Period Example

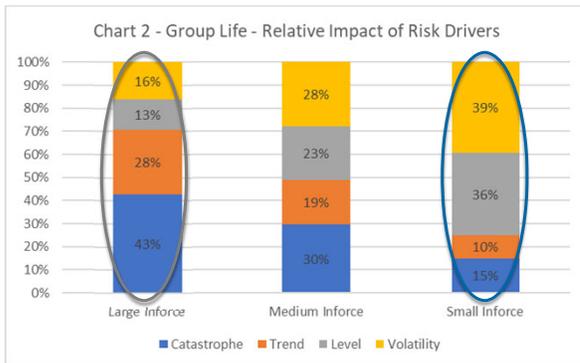


- Risks for large inforce blocks are spread proportionately between volatility/level, trend, and catastrophe
- Smaller inforce blocks are subject to higher volatility and level risks, which results in higher factors versus larger blocks

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## C-2 Factor Attribution by Mortality Risk Group Life - 5-Year Projection Period Example



- Risks for large inforce blocks are spread proportionately between volatility/level, trend, and catastrophe
- Smaller inforce blocks are subject to higher volatility and level risks, which results in higher factors versus larger blocks

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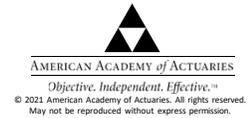


## Expanded Categories to Three Products for Individual Life and Two Categories for Remaining Rate Terms for Group Life

### Original 1990s Work

- 1993 factors used a 5-year risk exposure period for all individual life business and a 3-year risk exposure period for group life because it assumed that management actions would occur to reset current mortality rates to reflect emerging experience

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## Expanded Categories to Three Products for Individual Life and Two Categories for Remaining Rate Terms for Group Life

### Current Work

- For individual life, management action to reset current mortality rates may be limited or non-existent for products that offer longer term mortality rate guarantees (e.g., Universal Life with Secondary Guarantees (ULSG), Level Term)
- For group life, there are varying lengths of premium rate terms in the marketplace
- Factors aligned with the remaining risk exposure period of current mortality rates on an inforce block is appropriate. This risk differentiation can be accomplished by varying factors by product for individual life and by remaining premium term for group life.
- **The recommendation is to expand factors into additional categories to reflect the current mortality rate risk exposure period over the remaining lifetime of an inforce block of business**
  - **For individual life insurance, the recommendation is to differentiate into three product categories with definitions consistent with the annual statement – analysis of operations by line of business – individual life insurance and VM-20**
  - **For group life insurance, the recommendation is to differentiate into two categories by remaining length of the rate term based on company records by group contract**

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## Two New Catastrophe Components

- A terrorism component was developed based on industry experience from the September 11, 2001 terrorist attacks
  - Component assumes a 5% annual probability of an extra 0.05 deaths per 1,000.
- As shared at the [September 11, 2020 LRBCWG meeting](#), a new catastrophe component was developed for a sustained mortality increase from an unknown risk, which serves as a replacement for the adverse HIV scenarios in the original work
  - Component is intended to cover unknown risks that could materialize in the insured population
  - The component assumes a 2.5% annual probability of a 5% sustained severe mortality increase
    - In follow up to a question at the 9/11/20 meeting, sensitivity testing was performed at a 5% annual probability, which has a very modest impact (within rounding to the nearest 0.05)
  - If the event occurs, it is sustained for the remainder of the projection period up to a maximum period of 10 years
  - Without this component the recommended factors would be about 0.1 lower
- **The recommendation is to include these two new catastrophe components.**

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## Recommended Updated C-2 Factors

Per \$1000 of NAR	Pre-Tax Life RBC C-2 Factors				
	Individual & Industrial Life			Group & Credit Life	
	Universal Life with Secondary Guarantees	Term Life	All Other Life	Remaining Rate Terms Over 3 Years	Remaining Rate Terms 3 Years and Under
First \$500M (Small)	3.90	2.70	1.90	1.80	1.30
Next \$24.5B (Medium)	1.65	1.10	0.75	0.70	0.45
>\$25B (Large)	1.10	0.75	0.50	0.45	0.30

**Individual Life:** New categorization would be determined based on the categories specified in the annual statement analysis of operations by line of business and consistent with VM-20

- ULSG: factors are the highest due to the longest current mortality rate guarantees and are based on a 20-year risk exposure period for a mature inforce block
- Term Life: factors are based on a typical 10-year risk exposure period for a mature inforce block. The industry is concentrated in 10, 20 and 30-year level term.
- All Other Life: factors are based on a 5-year risk exposure period and assume inforce pricing may be adjusted following adverse mortality experience due to the presence of non-guaranteed elements. Examples are universal life products without secondary guarantees and participating whole life products.

**Group Life:** New categorization would be determined based on company records for the remaining premium rate terms by group contract

- One category is for remaining premium rate terms greater than 3 years and is represented by a 5-year exposure period
- The other category is remaining premium rate terms 3 years and under and is represented by a 3-year exposure period

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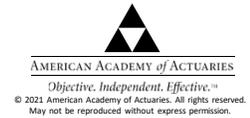
## Recommendation on Updated C-2 Factors

Per \$1000 of NAR	Pre-Tax Life RBC C-2 Factors						
	Individual & Industrial Life				Group & Credit Life		
	Universal Life with Secondary Guarantee	Term Life	All Other Life	% of Individual Life Insurers*	Remaining Rate Terms Over 3 Years	Remaining Rate Terms 3 Years and Under	% of Group Life Insurers*
First \$500M (Small)	3.90	2.70	1.90	43%	1.80	1.30	54%
Next \$24.5B (Medium)	1.65	1.10	0.75	36%	0.70	0.45	33%
>\$25B (Large)	1.10	0.75	0.50	21%	0.45	0.30	12%

- Size bands were reviewed, and **the recommendation is to combine the current middle two categories (\$500M-\$5B and \$5B-\$25B) into one category (\$500M-\$25B)**
- **The recommendation is to continue categorizing industrial life with individual life and credit life with group life**
- **The recommendation is to continue with the 50% credit given for group premium stabilization reserves**

\* As of 2019 annual statement reporting

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## Recommendation vs Current RBC Individual & Industrial Life Impacts

Per \$1000 of NAR	Pre-Tax Life RBC C-2 Factors						
	Individual & Industrial Life				Change vs Current RBC		
	Current RBC	ULSG	Term	All Other	ULSG	Term	All Other
First \$500M	2.23	3.90	2.70	1.90	+75%	+21%	-15%
Next \$4.5B	1.46	1.65	1.10	0.75	+13%	-25%	-49%
Next \$20B	1.17				+41%	-6%	-36%
>\$25B	0.87	1.10	0.75	0.50	+26%	-14%	-43%

- Overall individual life industry impact would be a modest decrease with industry exposure by NAR concentrated in Term business amongst large insurers
- Factors increase for ULSG
- Factors decrease for products with inforce pricing flexibility (i.e., All Other category)
- Small ULSG and Term carriers would experience an increase on retained business; however, reinsurance is typically used to transfer/mitigate the mortality risk

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## Recommendation vs Current RBC Group & Credit Life Impacts

Per \$1000 of NAR	Pre-Tax Life RBC C-2 Factors				
	Group & Credit Life			Change vs Current RBC	
	Current RBC	Remaining Rate Terms Over 3 Years	Remaining Rate Terms 3 Years and Under	Remaining Rate Terms Over 3 Years	Remaining Rate Terms 3 Years and Under
First \$500M	1.75	1.80	1.30	+3%	-26%
Next \$4.5B	1.16	0.70	0.45	-40%	-61%
Next \$20B	0.87			-20%	-48%
>\$25B	0.76	0.45	0.30	-41%	-61%

- Overall group industry impact would be a significant decrease in C-2 capital
- Factors decrease for all but one category: small size for longer rate terms which stays about the same
- Group life factors decreased due to the decades-long decline in experience mortality rates, and the exposure periods remain shorter term as compared to individual life
- C-2 is reduced by up to 50% of premium stabilization reserves

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## C-2 Factors as an Overall Mortality Increase and Observations Versus Other Capital Regimes

Inforce Block Size	Overall Mortality Increase	
	Individual & Industrial Life – 5-year	Group & Credit Life – 5-year
Small	+22%	+31%
Medium	+10%	+14%
Large	+8%	+10%

- Table translates factors to an overall mortality percentage increase for a 5-year risk exposure period
- Percentage increases are similar for other risk exposure periods with cumulative magnitudes being greater for longer periods
  - For example, a 10% increase for 10 years is more severe than a 10% increase for 5 years
- Factors were reviewed against other capital regimes, including Canada, International Capital Standards (ICS), Solvency II and rating agency
  - Mortality risk drivers are consistent
  - Confirmed magnitudes are reasonable for the 95<sup>th</sup> percentile

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## Sensitivity Testing: Other Attributes that Increase Mortality Risk

- The model was extensively sensitivity tested, and the following attributes increase mortality risk for companies concentrated in these areas
- The C-2 Mortality Work Group doesn't recommend differentiating RBC factors by these attributes; however, they may be useful to regulators when reviewing potentially weakly capitalized companies
- **Older Attained Ages:** capital needs per unit of net amount at risk increase for attained ages 65 and older due to increasing mortality rates
- **Substandard/Classified Underwriting Classes:** capital needs are higher due to higher mortality rates on unhealthier/riskier lives

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## Summary of Recommendations

- The Academy C-2 Life Mortality Work Group recommends the factors shown on [Slide 14](#) which reflect
  1. Expanding factors into additional categories to reflect the current mortality rate risk exposure period over the remaining lifetime of an inforce block of business
    - For individual life insurance, the recommendation is to differentiate into three product categories with definitions consistent with the annual statement – analysis of operations by line of business – individual life insurance and VM-20
    - For group life insurance, the recommendation is to differentiate into two categories by the remaining length of the premium term based on company records by group contract
  2. Including the two new catastrophe components for 1) terrorism (expressed as a 5% annual probability of an extra 0.05 deaths per 1,000) and 2) the risk of a sustained mortality increase from an unknown event (expressed as a 2.5% annual probability of a 5% sustained mortality increase)
  3. Combining the current middle two size categories into one category
  4. Continue categorizing industrial life with individual life and credit life with group life
  5. Continue with the 50% credit given for group life premium stabilization reserves
- The work group opines that additional review of the adopted correlation factor with longevity C-2 is not necessary as the Life C-2 modeling was completed consistently with longevity

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## Proposed Timeline

- A proposed timeline for a year-end 2022 implementation
  - By end of Q4 2021: expose recommended final factors
  - By end of Q1 2022: structural changes are adopted
  - By end of Q2 2022: updated factors are adopted
  - Year-end 2022: factors are implemented for year-end 2022 annual statements

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## Questions?

### Additional Questions, contact:

Khloe Greenwood, Life Policy Analyst  
[greenwood@actuary.org](mailto:greenwood@actuary.org)

Chris Trost, Chairperson C-2 Mortality Work Group

Ryan Fleming, Vice Chair C-2 Mortality Work Group



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## Appendix: Method and Assumption Comparison

Item	Original Work	Recommendation
General Method	Monte Carlo Model – Present Value (PV) of Death Benefits	Monte Carlo Model – PV of Statutory Losses • Loss defined as death benefits minus reserves released
Capital Quantification	PV[95 <sup>th</sup> ] – 105%*PV[Expected] • 5% margin/load assumed in reserve mortality	GPVAD[95 <sup>th</sup> ] • Greatest present value of accumulated deficiencies (GPVAD) • 5% margin/load assumed in reserve mortality
Length of Exposure Period	5 years (3 years for Group) • Assumed exposure past 5 years could be offset through management actions (raise premium, adjust non-guaranteed elements, etc.)	5, 10, and 20 years for Individual Life 3 and 5 years for Group Life
Discount rate	6% after-tax	2.765% after-tax (3.5% pre-tax)
Experience Mortality	88% of 1975-1980 Male Basic Table • 15Y Select & Ultimate Structure • Male/Female not explicitly modelled • Underwriting adjustments applied based on generation	2017 Unloaded Commissioners' Standard Ordinary Table (CSO) for Individual Life • 25Y Select & Ultimate structure • Gender distinct – Male/Female • 5 underwriting classes (3 non-smoker/2 smoker)  SOA 2016 Group Life Experience Study for Group Life • Gender distinct – Male/Female
Mortality Improvement	Unknown source • 1.00%	2017 Improvement Scale for VM-20 • Varies by gender and age

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## Appendix: Risk Distribution Approach Comparison

Risk	Original Work	Recommendation
Volatility	Binomial(Policies, q)	Binomial(Policies, q)
Level	Implicit from Discrete Scenarios: • 7 Competitive Pressures scenarios – risk of overoptimistic pricing assumptions • 15 AIDS scenarios – early 90's estimates of the impact of AIDS on insured mortality (could fit in level, trend, or catastrophe)	$LR \sim N(0, \sigma_{Lev}); \sigma_{Lev} = \sqrt{\sigma_{Cred}^2 + \sigma_{MVol}^2}$ • Two independent components: • Credibility/statistical sampling volatility ( $\sigma_{Cred}$ ) • True mortality volatility ( $\sigma_{MVol}$ ) • Continuous normal distribution
Trend	Discrete Distribution • 7 scenarios adjust mortality improvement assumption	$[M1, M2, \dots, M1_{CG}] \sim N(\mu, \Sigma)$ • 6 gender/age group improvement variables ( $M1_n$ ) • Correlated normally distributed random variables
Catastrophe	Discrete Distribution • Pandemic	3 Discrete Distributions • Pandemic – calibrated from multiple sources • Terrorism – 5% probability of additional 0.05 / 1K • Unknown Risk – 2.5% probability of a sustained 5% increase

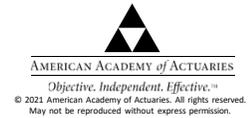
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## Appendix: Model Validation, Peer Review, Limitations

- **Validation:** Model assumptions were developed by the work group through reviewing current mortality research and studies applicable to the U.S. life insurance industry. The assumptions were discussed, reviewed and agreed upon through the work group's bi-weekly calls. Model results and sensitivities were also reviewed extensively by the work group. The work group also provided several updates to the NAIC Life Risk-Based Capital Working Group throughout the project and feedback was obtained from regulators.
- **Peer Review:** The model was independently peer reviewed by a member of the work group. The peer review confirmed that the calculations performed by the model were reasonable for the intended purpose and were being applied as intended.
- **Limitations:** The model is intended to stochastically project through Monte Carlo simulation the run-off of inforce life insurance blocks typical of U.S. life insurers in order to develop capital factors for use in the NAIC RBC formula for C-2 life insurance mortality risk. Other uses outside of this intended purpose may not be appropriate. Product features in the model were developed at a very basic level and consider differences in base statutory reserves, lapses, post level term mortality experience, face amounts and attained ages. The model is not designed to replicate detailed product and inforce block characteristics unique to individual companies. In particular, ULSG products were not directly modeled. The work group concluded based on the modeling that the capital factors are insensitive to product differences for a given risk exposure period. The recommendation to differentiate based on product is an indirect way to get at the length of mortality rate guarantee, utilizes the current reporting structure of the annual statements, and is aligned with principles based reserving differentiation.

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## Appendix: Prior Work Group Presentations to Life RBC

- [September 2020](#)
- [December 2019](#)
- [June 2019](#)
- [April 2019](#)
- [August 2018](#)
- [August 2017](#)

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# Custody Control Accounts

March 2022

STRICTLY PRIVATE AND CONFIDENTIAL

**J.P.Morgan**

## Credit mitigation vs. capital relief

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- ▶ Life reinsurance transactions with licensed or accredited reinsurers generally do not require a collateral mechanism to provide credit for reinsurance (CFR).
- ▶ Separate and distinct from CFR, the Life RBC Manual instructions reference certain collateral mechanisms (e.g., funds withheld or trustee collateral), which, if present, allow the Cedant to avoid an overstatement of RBC charges that would otherwise be applied for credit exposure to reinsurance counterparties. The Life RBC formula addresses uncollateralized credit exposure to reinsurers, whether admitted/accredited or unauthorized, and offers RBC credit only for certain listed collateral mechanisms.
- ▶ While the subject provision of the Life RBC Manual allows an RBC credit for certain non-CFR collateral mechanisms, certain other credit risk mitigation (comfort) arrangements developed by large custodial institutions are not similarly treated, resulting in significant inefficiencies in certain life reinsurance transactions.

## Growing demand for 'comfort trusts'

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- ▶ In many life reinsurance transactions, where the parties negotiate and agree to collateral arrangements for commercial reasons, they are forced to use trustee assets in order to achieve the desired RBC credit, even where a trust is not needed to satisfy CFR requirements; such "comfort trusts" are common in a variety of life reinsurance transactions, including block acquisitions, embedded value and reserve financings and pension risk transfers
  - J.P. Morgan is aware of numerous transactions that involve over \$50 billion of assets held in Comfort Trusts
- ▶ Other collateral mechanisms can provide the same level of security to Cedants with lower costs and greater flexibility.

## Custody Control Accounts

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- ▶ The Finance industry widely supports and leverages custodial control accounts (“Custody Control Accounts”) where segregated collateralization under third-party control is required (e.g. pledges to FHLBs, Segregated Initial Margin, variation margin for 40 Act clients, etc.).
  - In the same way, a Custodian can hold assets pledged by the Reinsurer for the benefit of the Cedant in connection with a reinsurance transaction.
  
- ▶ The intent of the Custody Control Account is to provide the same protections to the Cedant as would be provided by a trust arrangement. Both Comfort Trusts and Custody Control Accounts can be structured to:
  - Segregate assets to cover claims and other amounts payable under the subject reinsurance agreement
  - Establish a senior claim of the Cedant over the account assets in the event of a Reinsurer insolvency or receivership
  - Permit the Cedant to take control of the assets in the event of specified breaches of the reinsurance agreement
  - Allow the Cedant to monitor the composition of assets in the account
  - Restrict Reinsurer withdrawal and replacement of assets from the account based on agreed conditions
  
- ▶ However, a Custody Control Account offers the same operational control as a trust arrangement, at a reduced cost due to increased scale and automation:
  - Custodial arrangements represent the majority of collateralized assets held by Custodian banks.
  - Custody Control Accounts provide a greater level of automation and straight-through-processing, resulting in lower costs (up to \$100K per annum, per account) for all parties (insurers and Custodians).
  - Custody Control Accounts and Comfort Trusts both offer the following services: :
    - Priced Position Reporting
    - Monitoring of specific withdrawal and replacement conditions based on objective criteria
    - Detailed transaction reporting
    - Administration and servicing of assets
  - Today, Clients have a limited number of banks that are able to provide Comfort Trusts with the same capabilities and at the same price as a custody arrangement. By allowing Custody Control Accounts to receive the same RBC treatment as Comfort Trusts, insurers would be able to select among a larger group of providers.

## Proposed changes to RBC instruction

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### From Risk-Based Capital Forecasting & Instructions – Life and Fraternal, 2019

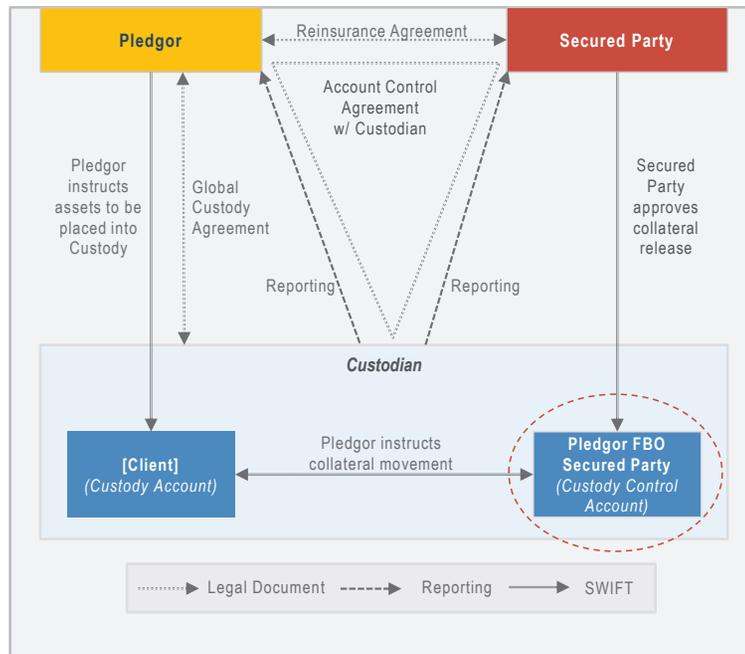
#### REINSURANCE

LR016 (p. 53 of the 2019 Edition)

There is a risk associated with recoverability of amounts from reinsurers. The risk is deemed comparable to that represented by bonds between risk classes 1 and 2 and is assigned a pre-tax factor of 0.78 percent. To avoid an overstatement of risk-based capital, the formula gives a 0.78 percent pre-tax credit for reinsurance with non-authorized and certified companies, for reinsurance among affiliated companies, for reinsurance with funds withheld or reinsurance with authorized reinsurers that is supported by equivalent trustee or custodied collateral ~~that meets the requirements of the types~~ stipulated in paragraph 18 of Appendix A-785 (Credit for Reinsurance), where there have been regular bona fide withdrawals from such trustee or custodied collateral to pay claims or recover payments of claims during the calendar year covered by the RBC report, and for reinsurance involving policy loans. Withdrawals from trustee or custodied collateral that are less than the amounts due the ceding company shall be deemed to not be bona fide withdrawals. For purposes of these instructions, “custodied collateral” shall mean assets held pursuant to a custodial arrangement with a qualified U.S. financial institution (as defined in Appendix A-785 (Credit for Reinsurance)) pursuant to which the underlying assets are segregated from other assets of the reinsurer and are subject to the exclusive control of, and available to, the ceding company in the event of the reinsurer’s failure to pay under, and otherwise pursuant to the terms of, the subject reinsurance agreement.

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# Custody Control Account



## Legal & Operational Highlights

### Legal Documents Required

- ▶ **Global Custody Agreement:** Bilateral agreement for custodial services between Pledgor and Custodian
- ▶ **Account Control Agreement:** Tri-party agreement between Pledgor, Secured Party and Custodian

### Legal & Operational Framework

- ▶ Custody Bank acts as Custodian (not as Trustee)
- ▶ Custodian has subordinated lien over assets in the control account (though may retain a first priority lien for fees and expenses)
- ▶ Assets are segregated in a control account in the Pledgor's name FBO the Secured Party
- ▶ The Secured Party can assume control of the account at any time upon the satisfaction of conditions as stipulated in the underlying bilateral agreement w/ the Pledgor (e.g. an event of default as notified and exclusively determined by the Secured Party) and following Custodian's receipt of a Notice of Exclusive Control (NOEC). Custodian has a reasonable time to act on the instruction and does not validate the event of default.
- ▶ Custodian is indemnified for following instructions
- ▶ Custodian acts upon instructions by Pledgor to deliver assets into the control account
- ▶ Parties have flexibility to decide on the control model – i.e., whether release and/or substitution of assets requires single party or dual (Pledgor and Secured Party) instructions
- ▶ The Account Control Agreement supplements a Global Custody Agreement and is not a standalone agreement.

## Key Features

<b>Custody</b>	<ul style="list-style-type: none"> <li>▶ Pledgor instructs assets to be placed into custody account free of payment</li> <li>▶ Asset servicing on securities that are registered in J.P. Morgan's nominee name</li> <li>▶ Automated income transfer capability, back to main custody account in respect of any income earned on depository eligible assets can be provided</li> </ul>
<b>Control</b>	<ul style="list-style-type: none"> <li>▶ SWIFT message release automation for collateral release AND substitutions. Support for different arrangements (e.g. Single/Joint Authentication).</li> <li>▶ Secured Party can assume control of account upon Notice of Exclusive Control instruction to the Custodian (NOEC)</li> </ul>
<b>Reporting</b>	<ul style="list-style-type: none"> <li>▶ Consolidated custody reporting available to both client and secured party</li> <li>▶ View and schedule customized or pre-defined reports</li> <li>▶ Intra-day and end-of-day reporting via SWIFT</li> </ul>

The chart below summarizes key comparisons between: (1) a trust account established by a reinsurer to provide an asset or reduction from liability to a ceding company for reinsurance ceded (a “Credit for Reinsurance Trust”); (2) a trust account established by a reinsurer in connection with a reinsurance agreement that is not necessary to provide an asset or reduction from liability for reinsurance but rather provides credit protections to the ceding company (a “Comfort Trust”); and (3) a custodial account established by a reinsurer to provide credit protections to a ceding company in connection with a reinsurance agreement (a “Comfort Custodial Account”). With respect to a Comfort Custodial Account, the chart contemplates the structure proposed by JPMorgan in connection with its proposed changes to the RBC Manual.

	<b>Credit for Reinsurance Trust</b>	<b>Comfort Trust</b>	<b>Comfort Custodial Account</b>
<b>Nature of Reinsurer</b>	Reinsurer is <b>not</b> licensed or accredited in Cedant’s domiciliary jurisdiction.	Reinsurer is licensed or accredited in the Cedant’s domiciliary jurisdiction.	Reinsurer is licensed or accredited in the Cedant’s domiciliary jurisdiction.
<b>Effect on Credit for Reinsurance</b>	Collateral in trust provides a reduction for liability (statutory credit for reinsurance) where Reinsurer is not licensed or accredited.	No effect on Credit for Reinsurance as collateral is not required in order for the Cedant to receive statutory reserve credit.	No effect on Credit for Reinsurance as collateral is not required in order for the Cedant to receive statutory reserve credit.
<b>Cedant Reinsurance Counterparty Credit Exposure RBC Charges and Credits</b>	An RBC credit is applied to offset the RBC charge for reinsurance counterparty credit exposure because such exposure has been mitigated through the trust mechanism.	An RBC credit is applied to offset the RBC charge for reinsurance counterparty credit exposure because such exposure has been mitigated through the trust mechanism.	Although credit exposure would be reduced under a Comfort Custodial Account similar to both a Credit for Reinsurance Trust or Comfort Trust, the current RBC instructions mandate a reinsurance counterparty credit charge with no offsetting credit because of the form of the legal agreement governing the collateralization arrangement.  Under JPMorgan’s proposed revisions to the RBC Instructions, the RBC charges and credits across all three of these arrangements would be harmonized. Custodial Account Equivalent with a trust.

	<b>Credit for Reinsurance Trust</b>	<b>Comfort Trust</b>	<b>Comfort Custodial Account</b>
<b>Structure</b>	Assets deposited in trust with a third-party trustee by the Reinsurer for the benefit of the Cedant.	Assets deposited in trust with a third-party trustee by the Reinsurer for the benefit of the Cedant.	Assets deposited in custodial account established by the Reinsurer with a third-party account bank subject to the first priority lien and exclusive control of the Cedant.
<b>Asset Classes</b>	Assets permitted to be deposited in trust are specified by the applicable statute. Frequently limited to cash, U.S. Treasuries or Agencies and SVO Listed Securities.	Asset classes are subject to the RBC instructions, and additionally include foreign securities, equity interests and interests in investment companies.	Asset classes would be subject to the RBC instructions, and additionally include foreign securities, equity interests and interests in investment companies.
<b>Valuation</b>	Cedant is only allowed to receive credit for reinsurance based on the <u>market value</u> of assets of the Trust Account.	Valuation is based on the contractual agreement between the parties. Frequently comfort trust agreements and related reinsurance agreements provide that the asset balance required is based on <u>book value</u> of assets unless one or more specified credit events have occurred, in which case market values are required.	Similar to a Comfort Trust, parties would agree to method of valuation of account assets.
<b>Duties of Trustee/Bank</b>	Trustee is a directed trustee, required to hold assets and act in accordance with the instructions of the parties, as set forth in the Trust Agreement.	Trustee is a directed trustee, required to hold assets and act in accordance with the instructions of the parties, as set forth in the Trust Agreement.	Bank would be required to hold assets and act in accordance with the instructions of the parties, as set forth in the Account Control Agreement.
<b>Title of Assets</b>	Title of assets is transferred to the trustee of the trust.	Title of assets is transferred to the trustee of the trust.	Title of assets is maintained by the Reinsurer, but subject to a lien in favor of the Ceding Company, which lien is perfected through exclusive control over the assets pursuant to an Account Control Agreement.

	<b>Credit for Reinsurance Trust</b>	<b>Comfort Trust</b>	<b>Comfort Custodial Account</b>
<b>Withdrawal Conditions</b>	<p>No conditions are allowed for the withdrawal of assets by the Ceding Company.</p> <p>Withdrawal of assets by the Reinsurer is generally not allowed except to the extent that the market value of assets exceeds 102% of the reserves ceded under the reinsurance agreement, in which case the Reinsurer can request the trustee to release such excess.</p>	<p>Reason and nature for withdrawal by the Ceding Company are agreed to by the parties and is typically based on specified defaults of the Reinsurer.</p> <p>Withdrawals by Reinsurer may be allowed based on both market value or book value tests; if such tests are met, the Reinsurer can request the trustee to release such excess.</p>	<p>Reason and nature for withdrawal by the Ceding Company are agreed to by the parties and is typically be based on specified defaults of the Reinsurer.</p> <p>Withdrawals by Reinsurer may be allowed based on both market value or book value tests; if such tests are met, the Reinsurer can request the Bank to release such excess and the corresponding lien.</p>
<b>Substitution of Assets</b>	<p>Substitution of assets are only allowed to the extent that the market value of replacement assets exceeds the market value of the replaced assets.</p>	<p>Restrictions on substitutions are agreed between the parties and are typically based on book value and market value of relevant assets.</p>	<p>Restrictions on substitutions are agreed between the parties and are typically based on book value and market value of relevant assets.</p>

January 24, 2022

## Capital Adequacy (E) Task Force RBC Proposal Form

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> Capital Adequacy (E) Task Force  | <input type="checkbox"/> Health RBC (E) Working Group     | <input type="checkbox"/> Life RBC (E) Working Group    |
| <input type="checkbox"/> Catastrophe Risk (E) Subgroup    | <input type="checkbox"/> Investment RBC (E) Working Group | <input type="checkbox"/> Operational Risk (E) Subgroup |
| <input type="checkbox"/> C3 Phase II/ AG43 (E/A) Subgroup | <input type="checkbox"/> P/C RBC (E) Working Group        | <input type="checkbox"/> Longevity Risk (A/E) Subgroup |

<p style="text-align: right;"><b>DATE:</b> _____</p> <p><b>CONTACT PERSON:</b> _____</p> <p><b>TELEPHONE:</b> _____</p> <p><b>EMAIL ADDRESS:</b> _____</p> <p><b>ON BEHALF OF:</b> _____</p> <p><b>NAME:</b> _____</p> <p><b>TITLE:</b> _____</p> <p><b>AFFILIATION:</b> _____</p> <p><b>ADDRESS:</b> _____</p>	<p style="text-align: center;"><b><u>FOR NAIC USE ONLY</u></b></p> <p>Agenda Item # _____</p> <p>Year _____</p> <p style="text-align: center;"><b><u>DISPOSITION</u></b></p> <p><input type="checkbox"/> ADOPTED _____</p> <p><input type="checkbox"/> REJECTED _____</p> <p><input type="checkbox"/> DEFERRED TO _____</p> <p><input type="checkbox"/> REFERRED TO OTHER NAIC GROUP _____</p> <p><input type="checkbox"/> EXPOSED _____</p> <p><input type="checkbox"/> OTHER (SPECIFY) _____</p>
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### IDENTIFICATION OF SOURCE AND FORM(S)/INSTRUCTIONS TO BE CHANGED

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Health RBC Blanks       | <input type="checkbox"/> Property/Casualty RBC Blanks       | <input type="checkbox"/> Life and Fraternal RBC Instructions |
| <input type="checkbox"/> Health RBC Instructions | <input type="checkbox"/> Property/Casualty RBC Instructions | <input type="checkbox"/> Life and Fraternal RBC Blanks       |
| <input type="checkbox"/> OTHER _____             |   |  |

### DESCRIPTION OF CHANGE(S)

In reference to SAPWG referral 2020-#36 (8/13/2018) and VOSTF referral 2020-#38 (9/21/2018); Attribute bond risk-based capital (RBC) factors to bond mutual funds that have applied for Regulatory Treatment Analysis Service (RTAS) and have received a National Association of Insurance Commissioners (NAIC) designation from the Securities Valuation Office (SVO), based on a look-through calculation of the credit risk for the fund's underlying bonds, using a weighted average rating factor methodology (WARF) in conjunction with a qualitative review of the fund's pertinent U.S. Securities and Exchange Commission (SEC) registered investment documents. Proposed factor changes:

Current (SVO review unavailable)		New (With SVO review)			
Designation	Factor	Designation	Life Factors	P&C Factors	Health Factors
NA	0.300	1.A	0.00158	0.002	0.003
		1.B	0.00271	0.004	0.005
		1.C	0.00419	0.006	0.008
		1.D	0.00523	0.008	0.011
		1.E	0.00657	0.010	0.014
		1.F	0.00816	0.013	0.016
		1.G	0.01016	0.015	0.019
		2.A	0.01261	0.018	0.022
		2.B	0.01523	0.021	0.025
		2.C	0.02168	0.025	0.031
		3.A	0.03151	0.055	0.069
		3.B	0.04537	0.060	0.076
		3.C	0.06017	0.066	0.083
		4.A	0.07386	0.071	0.089
		4.B	0.09535	0.077	0.097
		4.C	0.12428	0.087	0.110
		5.A	0.16942	0.098	0.123
		5.B	0.23798	0.109	0.137
		5.C	0.30000	0.120	0.151
		6	0.30000	0.300	0.300

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**REASON OR JUSTIFICATION FOR CHANGE \*\***

**Background**

Until recently, all mutual funds, bond or equity-oriented, were classified as “common stock,” unless they met specific eligibility criteria for inclusion on the now-discontinued Money Market Mutual Fund List or Bond Mutual Fund List. The Bond Mutual Fund List eligibility criteria were narrow in scope<sup>1</sup>, only permitting bond-like treatment of a mutual fund if it invested solely in Purposes and Procedures (P&P) Manual-listed U.S. Government securities with the fund maintaining the highest credit quality rating given by an NAIC Credit Rating Provider (CRP). Since the discontinuation of these lists, the SVO has positioned a new list known as the NAIC Fixed Income-Like SEC Registered Funds List to allow for the evaluation and inclusion of mutual funds that predominantly invest in individual bond securities.

NAIC staff previously questioned the equity-like treatment for bond mutual funds as part of the Statutory Accounting Principles (E) Working Group’s (SAPWG) investment classification project. As a part of this project, NAIC staff determined that the inclusion of “mutual funds” within the “common stock” definition was overly broad.<sup>2</sup> Consequently, the SAPWG adopted a proposal to add a column on Schedule D, Part 2, Section 2 (subsequently implemented by Blanks (E) Working Group) that would permit funds designated by the SVO (and only funds designated by the SVO) to be reported on that schedule. Eligibility for such reporting would require an NAIC designation that could, in turn, align with an RBC factor to be determined by the Capital Adequacy (E) Task Force. This action effectively recognized that with appropriate review of underlying holdings, more appropriate risk-based capital treatment can be achieved through the designation process, without changing the reporting schedule or accounting for such investments. This adoption led to a referral from SAPWG (2020–#36) for RBC consideration.

Concurrently, the Valuation of Securities (E) Task Force (VOSTF) directed NAIC staff to develop a comprehensive proposal to ensure consistent treatment for investments in funds that predominantly hold bond portfolios, across all schedules. Significant efforts were made to align fund guidance and evaluation treatment in the P&P Manual. The adopted language created the new, aforementioned NAIC Fixed Income-Like SEC Registered Funds List of the P&P Manual, which expanded the existing evaluation framework to permit review and designation for all funds issued by an investment company whose offering is registered with and regulated by the SEC and whose published investment objective is to invest almost exclusively in bonds. The VOSTF’s procedure permits the sponsor of a fund or an insurer to request an SVO assessment of a fund to determine if it meets requirements imposed by the Task Force for more appropriate treatment. If the fund is eligible, the SVO adds the name of the fund to the relevant list with a preliminary NAIC designation. This adoption led to a referral from VOSTF (2020–#38) that the Capital Adequacy (E) Task Force (CAPAD) consider formally integrating the comprehensive instructions for mutual funds adopted for the P&P Manual into the NAIC RBC framework, by attributing bond RBC factors to any bond fund meeting the P&P Manual criteria, and achieving an NAIC designation through the SVO’s evaluation process.

Both of these preceding events and changes have effectively positioned bond mutual funds to be accurately evaluated, designated, and reported with RBC charges that are reflective of the bond securities within the fund.

**Regulation**

Bond mutual funds (investment companies) are registered with and regulated by the SEC and have published investment objectives to invest in bonds. Strict regulation has enabled bond mutual funds to reliably deliver bond exposure to investors for over 85 years, through unprecedented market events, such as the interest rate shock in the 1970s that saw the U.S. Federal Funds’ rate go above 14%, and also, when interest rates were cut to near 0%, during the global financial crisis and the years that followed. As of year-end 2020, there is over \$5.2 trillion in total net assets entrusted to the bond mutual fund investment structure (ICI Investment Company Fact Book 2021).

<sup>1</sup>Purposes and Procedures Manual of the NAIC Investment Analysis Office: Part Three – SVO Procedures and Methodology for Production of NAIC Designation (2019); “A bond mutual fund is eligible for inclusion on the Bond List if the fund meets the following conditions: The fund shall invest 100% of its total assets in the U.S. Government securities listed in the section below, class 1 bonds that are issued or guaranteed as to payment of principal and interest by agencies and instrumentalities of the U.S. Government, including loan-backed bonds and collateralized mortgage obligations, and collateralized repurchase agreements comprised of those obligations at all times.”

<sup>2</sup>SAPWG – Ref #2013-36 – SSAP No. 30 – Common Stock – Key Elements: The inclusion of “mutual funds” within the “common stock” definition is overly broad and allows inclusion of all “investment company” investments, and the characteristics of some of these investments may warrant separate accounting and reporting consideration (e.g., look-through). Per the SEC, an “investment company” is a company (corporation, business trust, partnership, or limited liability company) that issues securities and is primarily engaged in the business of investing in securities.

Mutual funds are stringently regulated under the Investment Company Act of 1940 (the “ ’40 Act”) and the Securities Act of 1933. These laws impose extensive obligations on the mutual fund and its investment adviser. As an SEC-regulated investment company, a mutual fund must invest its portfolio assets in accordance with the investment strategies outlined in its prospectus and other governing fund documents. The fund prospectus is an SEC-regulated legal document, updated annually, to inform current and prospective investors of the risks, fees, and investment strategy of the fund. It is not permissible for a bond mutual fund to change its investment strategy in any fundamental way that does not require the fund to at least notify its shareholders of the change, and in most cases, a mutual fund’s fundamental investment strategies cannot be altered without shareholder approval.

Additionally, Section 17(f) of the ’40 Act imposes strict regulations that require the portfolio securities (purchased on behalf of the investors) to be held by an independent custodian, segregated from the fund sponsor’s own assets. Section 17(f) also requires the net assets of the fund to be physically segregated from assets of other funds, and from the assets of the investment adviser (or any other person/entity), and provides for, among other things, periodic examinations of the assets by an independent public accountant. Finally, the SEC requires mutual fund custodians to protect a fund’s assets by segregating them from their own assets. Fund custodians must have authorized instructions from the fund’s authorized representative, designated by an officer of the fund, to deliver securities or cash from the fund.

### **Structure**

Mutual funds should be treated (for RBC purposes) in accordance with their underlying portfolio holdings because those portfolio securities drive the value and risks of the mutual fund. A shareholder in a mutual fund has a proportionate interest in, and exposure to, the underlying portfolio of securities held by the mutual fund. Bond mutual funds exist to pool the interests of many shareholders for the purpose of investing in fixed-income securities and pass through the cash flows and investment returns generated by its bond portfolio. Because the mutual fund must honor investor redemption requests at the Net Asset Value (NAV) per share, that is, at the actual value of the investor’s proportionate interest in the mutual fund’s underlying bond portfolio, the NAV is a highly accurate reflection of the fund’s underlying portfolio. The fund is simply a conduit for the performance of the underlying portfolio securities, as the federal securities laws make clear – under Rule 22c-1 of the ’40 Act, shares of an open-end mutual fund generally may only be bought or sold at the fund’s net asset value, which is the value of its underlying portfolio securities less fund liabilities and expenses as determined under Rule 2a-4 of the ’40 Act. Consequently, the risks of investing in a mutual fund are a reflection of the securities constituting its portfolio. In the case of a bond mutual fund, the risks and interests represented are that of the individual bonds held.

### ***An examination of what this structure means for insurers***

A bond mutual fund is not an operating company engaged in a trade or business that issues common stock and does not share inherent characteristics of common stock.<sup>1</sup> The securities that the bond mutual fund holds represent the economic value of the fund. In other words, a bond fund investor has no rights in the underlying securities owned, with respect to: 1) ownership of the companies; 2) voting rights in those companies, and; 3) sharing in the company profits or losses. Any contention that a bond mutual fund should be treated as an equity from a RBC standpoint is inconsistent with these rights and the debt exposures conveyed through the ’40 Act structure.

As previously stated, a bond mutual fund shareholder has a proportionate interest in the underlying securities (bonds), as reflected in the current NAV per share for the fund, but only directly owns shares of the mutual fund. The shareholder does not directly own the bonds, and therefore, does not have a direct creditor relationship with the issuer.<sup>2</sup> Instead, the bond mutual fund, as a registered investment company, is the direct owner of the individual bonds, and carries the creditor relationship with the issuers. Within this legal structure, the fund itself (as creditor) does not default, in the traditional sense, with respect to its relationship with the shareholder. Rather, each individually owned bond within the portfolio carries risk of default to its creditor (i.e., the bond mutual fund). For this structural reason, default risks occur “within the fund” at the same statistical occurrence rate as in any other debtor/creditor ownership structure for the bond securities (e.g., an insurer owning the bond directly). Any default occurrence is immediately recognized in the fund’s NAV, just as any other institutional investor would recognize the same default on their balance sheet. Therefore, credit risk of a bond mutual fund can be represented as a product of the weighted average credit risk of the individual bonds owned by the fund, and probabilities of default hold true for each underlying security. As with direct bond ownership, bond funds have interest rate, inflation, and credit risk associated with the underlying bonds owned by the fund, reflected in the daily NAV.

<sup>1</sup>Section 3(a)(1)(C) of the [Investment Company Act](#) defines an investment company as an issuer that is engaged or proposes to engage in the business of investing, reinvesting, owning, holding or trading in securities, and owns or proposes to acquire “investment securities”

<sup>2</sup>Management companies usually are structured as corporations or trusts. A management company’s board of directors (or trustees) oversees the management of the company. See [Section 2\(a\)\(12\) of the Investment Company Act](#). A management company’s investment adviser (which is typically a separate entity, registered with the Commission) manages the company’s portfolio securities for a fee. See [Section 2\(a\)\(20\) of the Investment Company Act](#).

We can further examine this structure by defining the prospective constituents. Within the bond mutual fund legal structure, the fund is the investment “company”<sup>1</sup>, and the registered investment adviser of the fund serves as the portfolio manager, investing for economic benefit for the “company”.<sup>2</sup> This economic benefit is then proportionally passed-through the registered investment company (i.e., mutual fund) to the shareholder (e.g., insurer), in exchange for a fee, in the form of an expense ratio. Similarly, an insurance “company” may directly own a portfolio of hundreds or thousands of bonds that are managed by an internal team of investment management professionals that it compensates for these services, for the economic benefit of their general account and policy holders. Finally, an insurance “company” may access these bonds through a separately managed account (SMA) of individual bonds, managed on behalf of the “company” by a professional asset management firm. Once again, the investment adviser is acting in a fiduciary capacity for the insurer for the economic benefit of the “company” and its owners, in exchange for a management fee.

Structure	Portfolio holdings	Bond Owner	Portfolio Adviser	Economic Benefit
Mutual Fund	100 Bonds	Mutual Fund	Fund Sponsor	Insurer General Account
Separately Managed Account	100 Bonds	Insurer	Investment Firm	Insurer General Account
Direct ownership	100 Bonds	Insurer	Insurer Employee	Insurer General Account

In all three arrangements, regardless of structure, there is a portfolio of bonds, a company that owns those bonds, portfolio adviser, and economic benefit passed on to the general account. Bonds held directly, or through other types of investment vehicles, hold the same types of securities. Therefore, portfolios of securities held in registered open-end management investment companies under the '40 Act should receive similar RBC treatment, in order to promote consistent, accurate application of capital treatment for structural ownership arrangements that produce the same economic value and risks.

#### *An examination of credit rating downgrades*

Based on structure, it should also be noted that there are no significant differences with respect to individual bond downgrades and the options available to manage such downgrades. This includes passively managed mutual funds that track a fixed income benchmark. When an issuer downgrade occurs, the downgrade is uniformly occurring within the bond market for any creditor, whereby a negative change in the rating of the bond security has occurred. A downgrade happens when a credit rating agency analyst feels that the future prospect for the security has weakened from the original recommendation, usually due to a material and fundamental change in the company's operations, future outlook, or industry, but does not indicate a guarantee of default. In each structure described, the owner has similar options.

While a passively managed mutual fund's objective is to track and deliver indexed returns, it is not legally obligated to sell a bond that has been downgraded out of scope of the index, at the time of the announced downgrade event, or even at the time in which the tracked benchmark provider removes the bond from the index, on the last day of the month of occurrence. Instead, the mutual fund, just like the individual institutional owner or SMA, has options to mitigate its risk and manage its portfolio for the benefit of the shareholder. In all ownership structures, the owner may: 1) sell the bond; or 2) hold the bond despite the implied increase of risk.

Also, a downgrade does not necessarily equate to illiquidity and can result in either a discounted sale price option for the owner (immediately recognized in the NAV of a mutual fund), or in some instances, an increased value and sale price (recognized increase to mutual fund NAV) in the bond market, due to the market's perception of a higher yield from the issuer that may not necessarily represent increased default risks to the prospective buyer. A mutual fund provider may leverage its scale and strong broker/dealer relationships to trade this security at a specific time (or over time) that will give the fund best execution and economic value.

Additionally, downgrades occur annually for a relatively small portion of the total U.S. bond market, and have represented less than 1% of issuance, on average, from 2007 to 2020.\* Of these downgrades, the majority remained within investment grade quality, with only 0.1% falling below investment grade.\* At the same time, a bond mutual fund only holds a fraction of bond market issues, and therefore may only own a fraction of a fraction of downgraded bonds that could in any manner impact a decision to sell the bond from the portfolio. As was previously discussed, these decisions to potentially mitigate portfolio risk are no different across ownership structures and immaterial in the decision to apply a certain set of risk-based capital factors.

\*Calculated based on, Bloomberg Finance L.P., Moody's, S&P, Fitch, and SIFMA market data.

### **Validity of evaluation methodology**

The recommendation to apply bond factors to bond mutual funds, based on an SVO quantitative and qualitative review, is based on an NAIC approach successfully conducted for almost 30 years (see previous citation of eligible bond mutual funds that invest 100% of their total assets in the U.S. Government securities). The approach is consistent with past NAIC practice, easy to implement, and considers the role of the VOSTF in identifying investment risks and the practical approach expressed in the administration of the RBC framework, which is based on default characteristics of corporate bonds, but applied to many other instruments, with risk and default characteristics unlike those of corporate bonds. This method for evaluating risk, and application of bond factors as a proxy to achieve appropriate levels of risk-based capital for these investments, has proven over decades that it is built on sound policy and should also be readily be applied to bond mutual funds.

Current SVO procedures permit the sponsor of a fund, or an insurer, to request a SVO assessment of a fund to determine if the fund is within scope of the comprehensive instructions for mutual funds, adopted in the Purposes and Procedures Manual of the NAIC Investment Analysis Office (P&P Manual). If, and only if, the fund is eligible, the SVO conducts an analysis, and adds the name of the fund to the relevant list, with a preliminary NAIC designation. Therefore, any bond mutual funds not submitted through the established SVO framework would continue to be covered by SSAP No. 30 and remain ineligible for NAIC designation and/or corresponding bond RBC factors. This rigorous process includes evaluation upon initial submission to the SVO and an ongoing process that has the ability to adapt ratings if a fund's composition or investment approach changes. For any rated fund the analysis would be conducted by the SVO twice each year; once during the fund provider's mandatory annual review and again when an insurer files notice of its ownership of the fund.

The SVO's well-developed analysis framework (successfully implemented for bond ETFs since 2004) includes a comprehensive look-through to all securities held in the investment in order to assess the inherent risks borne by the fund. This calculation of the credit risk for the fund's underlying investment portfolio uses a weighted average rating factor methodology (WARF). The WARF factor for each portfolio security (issue/security specific) is determined by first translating its NAIC CRP rating into an NAIC Designation. For bond securities that are unrated but have an NAIC Designation, the Designation is used. The WARF factor for that NAIC Designation is then market value-weighted. The weighted factor for each investment is summed to determine the fund's credit rating, which is then translated into the equivalent NAIC Designation.

The analysis is detailed in nature and accurately identifies similar risks of credit quality and interest rate sensitivity, associated with the underlying bonds, but also scrutinizes the rare instances where funds have more of a heterogeneous investment profile or dispersion of risk. The analysis is built on three key pillars:

- An extensive *quantitative look-through* analysis that is built on sound mathematical principles, in which a fund cannot "hide" lower-quality bonds behind those with stronger credit quality. Instead, the risks of any lower-quality bonds result in a higher NAIC designation and corresponding RBC charge. This total charge for a given dollar of investment is often higher than if the same dollar was invested with proportionate weighting in each individual bond within the portfolio. As an example, Vanguard's designated bond ETFs consistently give insurers diversified exposure to "higher" credit quality, relative to the applied NAIC designation, corresponding RBC factor, and total capital charge. (Data can be provided upon request. The same principle will hold true for similarly structured '40 Act mutual funds.)
- A *qualitative review* of the fund, considering the fund's objectives and investment constraints, as outlined in the SEC-regulated prospectus; thus, the SVO review considers the full range of the fund's possible future bond investments, not just the present.
- *Ongoing regulatory oversight* of the mutual funds used in insurers' portfolios, which remains a critical safeguard. If an insurance company buys a preliminarily designated listed fund, it must file that fund with the SVO for an additional analysis and official validation of the previously analyzed credit risks in order to receive an official NAIC designation. This new analysis takes into account any credit quality changes in a fund, including previously discussed downgrades, which may or may not have been sold from the fund. Only after this additional analysis does the SVO assign an official NAIC designation and enter the security into the NAIC systems for fixed-income like treatment.

### **Validity and summary of bond factor application**

A mutual fund is a reflection of the composition of individual bonds within the fund's portfolio. Every bond mutual fund will have its own unique number and variety of holdings, credit quality exposure, and therefore risk associated with the fund. Due to the endless variety of holdings and credit exposure that a fund can contain, a single, one-time analysis cannot be conducted at a mutual fund industry level to standardize new RBC factors to be applied across various "buckets" of bond mutual funds. Therefore, the approach to look-through each submitted bond mutual fund, using the WARF methodology, and apply as a proxy a bond designation, is the only appropriate analysis that can be conducted to accurately apply an RBC factor aligned with the risk of each unique portfolio.

As previously described, mutual funds are pass-through entities that pass through the cash flows and investment experience generated by the portfolio. If the fund only holds debt, the investor will only experience debt-like cash flows through the fund, generated by the principal and interest of the individual bonds held by the fund. Additionally, the risks of the bond fund are a reflection of the aggregate risks of each underlying bond component of the portfolio. As an investor in those bonds, a mutual fund bears those risks proportionate to its exposure in the security in the same manner that an insurer would bear the risk proportionate to their investment exposure in a specific individual bond held.

Within the context of RBC and how bond factors are attributed on a basis of a debtor’s ability to meet obligations to a creditor, the mutual fund “company” itself does not default in its relationship with the shareholder, because there is no creditor/debtor relationship with the shareholder. Therefore, standardized default rates of funds cannot be analyzed. Similarly, an insurer who owns a portfolio of bonds does not default, but rather, individual bonds within the insurer’s portfolio have default probabilities based on the credit quality of the issuer and the risk to not meet obligations. The same economic experience exists for both investing entities, and each creditor has the same legal protections and opportunity for economic recovery. However, in the event a decision is made to trade the bond in default, a bond mutual fund provides a structural advantage to most other institutions, due to scale and broker/dealer relationships that include dedicated coverage. Because of these advantages, bond mutual funds can more effectively trade these bonds at an opportune time, thus creating efficiencies of value in comparison to other owners of the issuance in default.

As the owner of the individual bonds, the mutual fund has a direct creditor relationship with the bond issuer and is subject to default at a statistical rate inherent in the creditworthiness of the issuer. In this case, the mutual fund directly bears the risk of issuer default and the financial impact in a manner proportionate to each bond. This is the same creditor relationship and risk that an individual insurer experiences when it directly owns individual bonds with varying credit qualities, at varying amounts, within their individually managed portfolio or SMA. Therefore, RBC for the individual insurance company is an aggregate of the weighting the insurer has to each individual bond and its credit quality. Similarly, when the SVO analyzes a mutual fund they look at the individual weighting to each bond and its credit quality to produce a weighted average, just as you mathematically can with an individual insurer’s portfolio. (Data can be provided upon request.)

**Impact**

Impact should be considered secondary to applying charges that are appropriate to the risk of the investment and the validity of such factors, as previously described. Utilization of bond RBC factors will be aligned with the CAPAD policy that insurers are capitalized at a minimally acceptable level and aligned and implemented through an SVO methodology that accurately assesses the underlying credit risk. With accurate application of valid RBC factors, impact will be appropriate.

Bond mutual funds offer a number of benefits to insurers, including the ability to redeem shares with the fund, daily valuation of the portfolio at NAV, immediate low-cost diversification, and professional investment management. By pooling together the assets of thousands or millions of investors, mutual funds achieve greater scale and efficiency than virtually any investor, including many insurers, could hope to obtain individually. Importantly, the biggest beneficiaries of a broader inclusion of bond mutual funds for bond RBC application would be small and mid-size insurers. In our experience, these companies often have challenges constructing diversified bond portfolios without incurring high costs because of the comparatively limited scale of their portfolios. Allowing for expansion of bond factor application to SVO evaluated bond mutual funds would accurately reflect the inherent risk in the portfolio and remove an inconsistent barrier to these low-cost options provided by top institutional money managers. These managers can help insurers increase the probability of meeting their portfolio goals while simultaneously reducing risk through greater diversification.

For those insurers that currently invest in bond mutual funds, but receive an equity-like factor, future impact to RBC cannot be accurately measured, because there is an unknown variable in the number of bond mutual fund asset managers that will apply for RTAS in order to receive an NAIC designation with a corresponding bond factor. However, given the knowledge and resources required to submit a mutual fund for such treatment, it can reasonably be hypothesized that a limited number of mutual funds will apply for the SVO review process and receive bond factors, leading to a minimal effect across these held bond mutual funds and on insurer RBC. Below, is a historical three-year summary of the small amount invested in bond mutual funds that would have asset manager “eligibility” to apply for review and bond factor treatment.

<b>Approximate bond mutual fund admitted assets (\$MM)</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
Life companies	\$565	\$1,200	\$725	\$964
Non-life companies	\$3,735	\$3,100	\$4,275	\$4,836
Total	\$4,300	\$4,300	\$5,000	\$5,800

These invested funds would be eligible for bond factor RBC only if they submit for, and undergo, the SVO evaluation process, leading to an official NAIC designation listing. The above figures equate to less than 1/10 of 1% of insurers' net admitted assets, according to statutory filings. Given the incredibly small allocation to bond funds within insurer portfolios, even in the most extreme assumed instance, where RBC would reduce from a 30% common stock charge to the lowest NAIC designation and charge (0.39% or 0.30%) for all current holdings, there would be very little impact to investment RBC, which is only one contributing factor to a company's overall RBC.

**Administrative Changes**

**@ NAIC RBC Group**

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**Additional Staff Comments:**

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**\*\* This section must be completed on all forms.**

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