

## 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><u>FOR NAIC USE ONLY</u></b>
<b>CONTACT PERSON:</b> <u>Ryan Fleming, MAAA, FSA</u>	Agenda Item # <u>2022-03-L</u>
<b>TELEPHONE:</b> <u>(414) 665-5020</u>	Year <u>2022</u>
<b>EMAIL ADDRESS:</b> <u>ryanfleming@northerstermutual.com</u>	<b><u>DISPOSITION</u></b>
<b>ON BEHALF OF:</b> <u>AAA C-2 Mortality Work Group</u>	<input checked="" type="checkbox"/> ADOPTED <u>4/22/22</u>
<b>NAME:</b> <u>Ryan Fleming, MAAA, FSA</u>	<input type="checkbox"/> REJECTED _____
<b>TITLE:</b> <u>Vice Chairperson</u>	<input type="checkbox"/> DEFERRED TO _____
<b>AFFILIATION:</b> <u>American Academy of Actuaries</u>	<input type="checkbox"/> REFERRED TO OTHER NAIC GROUP _____
<b>ADDRESS:</b> <u>1850 M Street NW, Suite 300</u>	<input type="checkbox"/> EXPOSED _____
<u>Washington, DC 20036</u>	<input type="checkbox"/> OTHER (SPECIFY) _____

### 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 Blanks  
☐ 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 C-2 life mortality factors and expanded categories.

### Additional Staff Comments:

Exposed for comment by the Working Group 1/20/22 (df)

Adopted by the Working Group 4/22/22 (df)

Adopted by the Task Force 4/28/22

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

**Revised 2-2019**

LIFE INSURANCE  
DRAFT - OPTION 2

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

- \* 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.

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

			(1)		(2)	
			<u>RBC Amount</u>	<u>Tax Factor</u>	<u>RBC Tax Effect</u>	
(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)-(20)</del>		X	0.2100	=
(136)	Group <b>&amp; Credit Life</b> Insurance C-2 Risk	LR025 Life Insurance Column (2) Lines <del>(20)-and-(21)-(42)</del>		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> + L(136b) <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)				

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

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

Company Name		Confidential when Completed	NAIC Company Code
		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) + Greatest of [ Guardrail Factor * (L(43)+L(44)), Guardrail Factor * L(44b), Square Root of [ (L(43) + L(44)) <sup>2</sup> + L(44b) <sup>2</sup> + 2 * (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.

## **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 (FGLI) 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.

Line (813)	Individual & Industrial Life Policies with Pricing Flexibility	(1)	Factor	(2)
		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	
			=	
	Total Individual & Industrial Life Policies with Pricing Flexibility Net Amount at Risk			

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.

Line (16)	Term Life Policies without Pricing Flexibility	(1)	Factor	(2)
		Statement Value		RBC Requirement
	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 Policies without Pricing Flexibility Net Amount at Risk (less FEGLI & SGLI in force)			

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.

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

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Next 24,500 Million		X 0.00165 =	
Over 25,000 Million		X 0.00110 =	
Total Permanent Life Policies without Pricing Flexibility			
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)		(1) Statement Value	Factor	(2) RBC Requirement
	Group & Credit Life with Remaining Rate Terms 36 Months and Under			
	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)		(1) Statement Value	Factor	(2) RBC Requirement
	Group & Credit Life with Remaining Rate Terms Over 36 Months			
	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)		(1) Statement Value	Factor	(2) RBC Requirement
	FEGLI/SGLI In Force		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.