July 24, 2017

Via email to: jgarber@naic.org

Kevin Fry
Chair, Investment Risk-Based Capital (E) Working Group
National Association of Insurance Commissioners

c/o Julie Garber, Senior Manager—Solvency Regulation
1100 Walnut Street, Suite 1500
Kansas City, MO 64106-2197

Re: C1 Work Group Updated Recommendation of Corporate Bond Risk-Based Capital Factors

Dear Mr. Fry:

The American Academy of Actuaries[1] ("Academy") Property and Casualty Risk-Based Capital Committee and Health Solvency Subcommittee is pleased to provide this response letter to the NAIC Investment Risk-Based Capital (E) Working Group ("IRBCWG"). This letter is in reference to the IRBCWG's exposure of the American Academy of Actuaries C1 Work Group's ("C1WG") "Updated Recommendation of Corporate Bond Risk-Based Capital ("RBC") Factors" letter dated June 8, 2017.

IRBCWG Objectives—Basis for These Comments

It is our understanding that the IRBCWG is considering implementing new life RBC fixed-income asset risk factors based on the work done by the C1WG and presented in the June 8, 2017, report titled "Updated Recommendation of Corporate Bond Risk-Based Capital Factors."

We understand that the IRBCWG is also considering implementing new property and casualty ("P&C") and health fixed-income asset risk factors based on output from the C1WG's corporate bond model, with certain adjustments. This letter sets forth some of the implications of, and issues related to, that change in the P&C and health fixed-income asset risk factors.

[1] The American Academy of Actuaries is a 19,000-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.

As explained below, it appears that the potential impact of the proposed factors could be greater on P/C and health companies than previously assumed, and further research on potential adjustments is required.

Current (2016) P&C Fixed-Income Asset Risk Factors

The P&C and health factors have been unchanged since the first adoption of RBC for P&C and health insurers. We understand that in 2001 the life factors were revised for tax considerations, but P&C and health factors were not updated at that time.

To understand this history, we obtained the 2000 RBC instructions for P&C and life. Table 1 shows the 2000 P&C, health, and life RBC fixed-income asset risk factors. Note that P&C and health utilized the same factors.

Table 1

2000 Life and P&C RBC Factors

1	2	3
NAIC Designation	Life	P&C / Health
1	0.3%	0.3%
2	1.0%	1.0%
3	4.0%	2.0%
4	9.0%	4.5%
5	20.0%	10.0%
6	30.0%	30.0%

The factors in Table 1, columns 2 and 3, are consistent with the common understanding that the P&C and health factors selected in the original P&C and health RBC formulas were the same as the life factors with an adjustment (equal to 50 percent) for the fact that P&C and health statutory carrying value for NAIC classes 3-5 ("below-investment-grade bonds") is market value and the life statutory carrying value for bonds is amortized cost.

We note that there are multiple simplifications inherent in the current approach, as it does not consider certain differences between the life and P&C/health statutory reporting and business practices, including:

- There is no provision for credit risk contained in statutory policy reserves for P&C and health insurers. Removing the risk premium offset would ***increase*** the factors.

- P&C and health insurers typically have shorter duration assets. A number of speakers at IRBCWG meetings have expressed the view that an appropriate adjustment would ***decrease*** the factors.[2]

In addition, we have found minimal discussion of the basis for the 50 percent adjustment for below-investment-grade bonds.

Table 2 shows the impact on P&C asset risk factors using the updated life factors and ***retaining*** the simplifications inherent in the current P&C asset risk factors. In other words, this analysis uses the new factors proposed for life companies and applies a 50 percent adjustment for below-investment-grade bonds. We have labeled this Scenario 1 and prepared results both including and excluding the tax effect.

The approximate impact on P&C insurers is displayed in the table below.[3]

Table 2

Impact Analysis of Scenario 1

	Scenario 1	
Impact Metric	**Pre-Tax**	**Post-Tax**
Average % change in authorized control level (ACL)	0.1%	0.0%
% of companies with 15%+ change in ACL	12.9%	6.3%
% of companies with 50%+ change in ACL	5.1%	0.0%
# of companies with change in RBC action level	0	0

This analysis shows that updating the factors using the new life factors, using the same approach that was done in the past on a post-tax basis, has minimal impact to the ACL for P&C insurers. Additional data and information on this impact analysis is shown in Appendix 1. We are pulling together the information for health companies and expect to show similar results.

C1WG Work

The C1WG report dated June 8, 2017, shows factors recommended for life insurers. The C1WG report also contains factors referred to as "Alternative Base Factors for Health and P&C" that equal the life factors increased to remove the federal income tax offset and to remove the credit risk contained in statutory life reserves. These are shown in column 3 of Table 3, below.

[2] The Academy's Property and Casualty Risk-Based Capital Committee and Health Solvency Subcommittee have not yet researched that issue.

[3] The impact presented in this section is approximated, as discussed in Appendix 1.

Table 3

2000 Life and P&C/Health RBC Factors

1	2	3
NAIC Designation	Current P&C/Health	Alternative Base Factors[4]
1	0.3%	1.03%
2	1.0%	3.19%
3	2.0%	11.83%
4	4.5%	29.25%
5	10.0%	65.44%
6	30.0%	30.00%

In its letter, the C1WG points out that the factors do not include any adjustment for the reporting differences for below-investment-grade securities. However, it is our understanding that the C1WG would expect that an appropriate adjustment, possibly the current 50 percent adjustment, would be made.

Comparing columns 2 and 3 of Table 3, we observe these alternative base factors are higher than we anticipated given that the process was intended to largely provide more granularity and given that the change in the life factors is much smaller.

The adjustment to remove the credit risk contained in statutory life reserves was not part of the original P&C and health RBC calibration. It appears that introducing this adjustment, as part of the granularity increase, creates the more significant change in factors that we have observed.

It is important to highlight that the C1WG is not recommending the alternative base factors to be used for P&C and health, but rather provided these factors as a potential starting point:

> "The C1WG is not recommending these factors for the P&C and Health RBC formulas, but have provided these alternative factors as a potential starting point for consideration by regulators to create a more consistent set of updated charges across all RBC formulas."[5]

This Committee's Review of C1WG Work

We appreciate the C1WG's work and for providing the base factors as a starting point. These base factors highlight that removing the simplifications from the current approach may lead to significantly different factors for P&C and health insurers.

[4] From Appendix C of C1WG report dated June 8, 2017. Granular designations summarized by assuming equal weights in assets within each the of old 1-6 designations.

[5] C1WG report dated June 8, 2017, page 4.

As part of our research, we have reviewed these factors and the potential impact to P&C insurers.[6] The approximate impact on P&C insurers is displayed in the table below.[7]

Table 4

Impact Analysis of Scenario 2

	Scenario 2	
Impact Metric	**Pre-Tax**	**Post-Tax**
Average % change in ACL	0.7%	0.4%
% of companies with 15%+ change in ACL	18.7%	15.8%
% of companies with 50%+ change in ACL	14.1%	11.3%
# of companies with change in RBC action level	2	1

This analysis shows that updating the factors under this scenario has a significant impact (greater than 50 percent increase) on the resulting ACL for many insurers (more than 10 percent of all companies). Additional data and information on this impact analysis is shown in Appendix 1.

While these factors provide a starting point, further research is required to address other differences between life and P&C/health statutory reporting and business practices. We are prepared to research the following topics further:

1. ***Maturity***—Our research has shown that the average time to maturity for P&C insurer bond portfolios is about six years, compared to an average of about 10 years for life insurer bond portfolios.[8] The average maturity for health is expected to be consistent with or lower than P&C average maturity. We can research the appropriateness of the representative portfolio and the time horizon assumptions to determine the appropriate adjustments needed to account for this difference.
2. ***Adjustment for Below-Investment-Grade Bonds***—Below-investment-grade securities are reported at the lower of amortized cost and fair value for P&C and health companies, while the these securities are reported at amortized cost for life companies[9]. We have found little discussion of the basis for the 50 percent adjustment for below-investment-grade bonds in the current approach. We can research the appropriate adjustment for this difference further.
3. ***Tax***—As shown in Table 1, the original factors for P&C, health, and life were identical, except for the adjustment for below-investment-grade bonds. Thus, life,

[6] This scenario uses the Life factors, and applies an adjustment for below-investment-grade bonds equal to the current adjustment of 50 percent.
[7] The impact presented in this section is approximated, as discussed in Appendix 1.
[8] Based on a review of average maturities as reported in Schedule D, Part 1A. Industry information compiled using "SNL Financial—Life Industry" and "P&C Combined Industry."
[9] SSAP No. 26.

P&C, and health factors both considered taxes in the same way. In 2001, the life RBC formula was amended to show factors on a pre-tax basis, and then apply a tax adjustment later in the life RBC formula. This was not done for the P&C and health RBC formulas. We can research why the RBC view of the tax situation on default risk might be different for P&C and health companies than for life companies, and provide our analysis.

Concluding Observations

The Academy's Property & Casualty Risk-Based Capital Committee and the Health Solvency Subcommittee observe the following:

1. The alternative base factors provide a good starting point to account for the credit risk contained in statutory life reserves. Additional research needs to be performed to ensure appropriate adjustments are applied to account for other differences the life and P&C/health statutory reporting and business practices. We are prepared to research these areas further.
2. As this research will be time-consuming, the IRBCWG could consider adopting the factors presented as Scenario 1 in this letter, on a post-tax basis. As discussed, the current approach is simplified and does not address many of the differences between the life, P&C, and health statutory reporting and business practices. However, adopting the factors presented as Scenario 1 in this letter would maintain consistency with the current approach and not be overly disruptive to P&C and health insurers. These factors could then be replaced with recommended factors after the further research referenced in this letter is completed.

We welcome feedback and/or questions from IRBCWG members, regulators, and interested parties. If you have any questions about our comments, please contact Marc Rosenberg, the Academy's casualty senior policy analyst, at rosenberg@actuary.org or 202-785-7865.

Sincerely,

Lauren Cavanaugh, MAAA, FCAS
Chairperson, Property and Casualty Risk-Based Capital Committee
American Academy of Actuaries

Tim Deno, MAAA, FSA
Chairperson, Health Solvency Subcommittee
American Academy of Actuaries

Appendix 1

In order to approximate the impact for P&C insurers under the scenarios presented in this letter, we submitted a request to Sak-man Luk of the New York Department of Financial Services to update the current bond factors present in the formula. The factors for the scenarios discussed in this letter are shown in Table 5 below.

Table 5

1	2	3	4	5	6
Bond Rating	Current P&C Factors	Scenario 1		Scenario 2	
		Pre-Tax	Post-Tax	Pre-Tax	Post-Tax
Aaa	0.30%	0.22%	0.16%	0.26%	0.19%
Aa1	0.30%	0.32%	0.23%	0.43%	0.31%
Aa2	0.30%	0.44%	0.32%	0.64%	0.46%
Aa3	0.30%	0.56%	0.40%	0.92%	0.66%
A1	0.30%	0.68%	0.49%	1.27%	0.91%
A2	0.30%	0.82%	0.59%	1.64%	1.18%
A3	0.30%	0.98%	0.70%	2.07%	1.49%
Baa1	1.00%	1.13%	0.82%	2.56%	1.84%
Baa2	1.00%	1.32%	0.95%	3.12%	2.25%
Baa3	1.00%	1.57%	1.13%	3.88%	2.79%
Ba1	2.00%	1.44%	1.04%	4.33%	3.12%
Ba2	2.00%	1.87%	1.35%	5.72%	4.12%
Ba3	2.00%	2.44%	1.76%	7.70%	5.54%
B1	4.50%	2.54%	1.83%	10.05%	7.24%
B2	4.50%	3.44%	2.48%	14.09%	10.14%
B3	4.50%	4.73%	3.40%	19.74%	14.21%
Caa1	10.00%	6.93%	4.99%	27.31%	19.67%
Caa2	10.00%	9.51%	6.85%	34.60%	24.91%
Caa3	10.00%	14.53%	10.46%	36.25%	26.10%

As we do not have data for each of the proposed 20 bond classes, the factors were compressed by assuming equal weights in assets within each the of old 1-6 designations, as shown in Table 6.

Table 6

1	2	3	4	5	6
Current NAIC Category	Current P&C Factors	Scenario 1		Scenario 2	
		Pre-Tax	Post-Tax	Pre-Tax	Post-Tax
1	0.3%	0.6%	0.4%	1.0%	0.7%
2	1.0%	1.3%	1.0%	3.2%	2.3%
3	2.0%	1.9%	1.4%	5.9%	4.3%
4	4.5%	3.6%	2.6%	14.6%	10.5%
5	10.0%	10.3%	7.4%	32.7%	23.6%
6	30.0%	30.0%	30.0%	30.0%	30.0%

The results are based on changing the factors for unaffiliated bonds and hybrid securities, and incorporating the impact to the asset concentration charge.

Luk provided the following analyses for each scenario:

- Distribution of all P&C companies by change in R1 charges;
- Distribution of all P&C companies by change in 2016 ACL RBC;
- The average change to the R1 charge for P&C companies;
- The average change in RBC at the ACL for P&C companies; and
- Comparisons of 2016 P&C current RBC action level and RBC action level under different scenarios.

His report is provided on the two pages that follow.

Distribution of Companies by Change in R1 Charges

	Scenario 1: Pre-Tax	Scenario 1: Post-Tax	Scenario 2: Pre-Tax	Scenario 2: Post-Tax
Less Than -50%	0	0	0	0
-50% to -25%	0	11	0	0
-25% to -15%	0	21	0	0
-15% to -5%	3	98	0	0
-5% to 5%	263	546	246	248
5% to 15%	76	526	9	22
15% to 25%	148	647	15	15
25% to 50%	581	641	24	52
Over 50%	1,420	1	2,197	2,154
Total	**2,491**	**2,491**	**2,491**	**2,491**

Distribution of Companies by Change in 2016 ACL RBC

	Scenario 1: Pre-Tax	Scenario 1: Post-Tax	Scenario 2: Pre-Tax	Scenario 2: Post-Tax
Less Than -50%	0	0	0	0
-50% to -25%	0	3	0	0
-25% to -15%	0	3	0	0
-15% to -5%	3	8	0	0
-5% to 5%	2,076	2,186	1,846	1,975
5% to 15%	90	135	180	122
15% to 25%	53	107	53	35
25% to 50%	143	49	62	77
Over 50%	126	0	350	282
Total	**2,491**	**2,491**	**2,491**	**2,491**

Comparisons of 2016 R1 and ACL RBC Charges between different Scenarios

	Current	Scenario 1: Pre-ax	Scenario 1: Post-Tax	Scenario 2: Pre-Tax	Scenario 2: Post-Tax
R1	8,762,240,847	11,355,332,651	9,002,541,055	21,813,845,568	16,552,865,592
% Change in R1		29.6 %	2.7%	149.0%	88.9%
ACL RBC	129,627,474,377	129,744,882,427	129,630,894,452	130,541,911,065	130,082,173,312
% Change in ACL RBC		0.1%	0.0%	0.7%	0.4%

Notes:
2016 RBC results under which the corresponding bond factors applicable to both unaffiliated bonds and hybrid securities and hybrid securities RBC re-classified to R1

Scenario 1: Pre-Tax bond factors - Class 1: 0.57%; Class 2: 1.34%; Class 3: 1.92%; Class 4: 3.57%; Class 5: 10.32% and Class 6: 30%

Scenario 1: Post-Tax bond factors - Class 1: 0.41%; Class 2: 0.96%; Class 3: 1.38%; Class 4: 2.57%; Class 5: 7.43% and Class 6: 30%

Scenario 2: Pre-Tax bond factors - Class 1: 1.03%; Class 2: 3.19%; Class 3: 5.92%; Class 4: 14.62%; Class 5: 32.72% and Class 6: 30%

Scenario 2: Post-Tax bond factors - Class 1: 0.74%; Class 2: 2.29%; Class 3: 4.26%; Class 4: 10.53%; Class 5: 23.56% and Class 6: 30%

Comparisons of 2016 P&C Current RBC Action Level and RBC Action Level under Different Scenarios

		Current RBC Action Level						
		MCL	ACL	RAL	CAL	Trend Test	No Action	Total
Scenario 1: Pre-Tax Bond Factors RBC Action Level	MCL	17						17
	ACL		8					8
	RAL			12				12
	CAL				21			21
	Trend Test					29		29
	No Action						2,404	2,404
	Total	17	8	12	21	29	2,404	2,491

Scenario 1: Pre-Tax bond factors - Class 1: 0.57%; Class 2: 1.34%; Class 3: 1.92%; Class 4: 3.57%; Class 5: 10.32% and Class 6: 30%

		Current RBC Action Level						
		MCL	ACL	RAL	CAL	Trend Test	No Action	Total
Scenario 1: Post-Tax Bond Fcators RBC Action Level	MCL	17						17
	ACL		8					8
	RAL			12				12
	CAL				21			21
	Trend Test					29		29
	No Action						2,404	2,404
	Total	17	8	12	21	29	2,404	2,491

Scenario 1: Post-Tax bond factors - Class 1: 0.41%; Class 2: 0.96%; Class 3: 1.38%; Class 4: 2.57%; Class 5: 7.43% and Class 6: 30%

		Current RBC Action Level						
		MCL	ACL	RAL	CAL	Trend Test	No Action	Total
Scenario 2: Pre-Tax Bond Factors RBC Action Level	MCL	17						17
	ACL		8					8
	RAL			12				12
	CAL				21	1		22
	Trend Test					28	1	29
	No Action						2,403	2,403
	Total	17	8	12	21	29	2,404	2,491

Scenario 2: Pre-Tax bond factors - Class 1: 1.03%; Class 2: 3.19%; Class 3: 5.92%; Class 4: 14.62%; Class 5: 32.72% and Class 6: 30%

		Current RBC Action Level						
		MCL	ACL	RAL	CAL	Trend Test	No Action	Total
Scenario 2: Post-Tax Bond Factors RBC Action Level	MCL	17						17
	ACL		8					8
	RAL			12				12
	CAL				21			21
	Trend Test					29	1	30
	No Action						2,403	2,403
	Total	17	8	12	21	29	2,404	2,491

Scenario 2: Post-Tax bond factors - Class 1: 0.74%; Class 2: 2.29%; Class 3: 4.26%; Class 4: 10.53%; Class 5: 23.56% and Class 6: 30%