



**John Bruins**  
Vice President & Senior Actuary  
202.624.2169 t  
johnbruins@acli.com

September 29, 2015

Ms. Elaine Wieche  
Chair – NAIC Investments RBC Working Group

Re Exposure of Academy's Bond Factor Report and Recommendation

Dear Elaine:

ACLI<sup>1</sup> is submitting the following comments regarding the exposed Academy Bond Factor Report on behalf of our member companies. This report provides recommendations for revised C-1 capital factors along with documentation regarding the assumptions and the modeling approach used to develop these factors.

We welcome the Academy's thorough report and appreciate the work that has gone into producing both the modeling and the report. ACLI supports periodic review and refinement of these factors. NAIC statistics show that C-1 capital is, by far, the most significant category of Risk-Based Capital for life insurance companies<sup>2</sup>, and corporate bond factors are the most significant component of C-1 capital. The factors produced by the Academy under the purview of the Investment Risk Based Capital Working Group (IRBC), however, would significantly increase the C-1 charges, thus materially and negatively impacting the perceived financial strength of our member companies.

While this letter includes ACLI's preliminary comments, the limited 45-day comment period has been insufficient to examine all of the issues in appropriate detail. In addition, our review has surfaced numerous questions that the Academy's report does not fully address. We therefore suggest that it would be premature for IRBC to adopt the factors prior to completing a robust review of all aspects of the proposal. We also believe that an impact analysis on companies and the industry is warranted in order to ensure all affected constituencies fully understand the consequences of the proposed changes.

The structure of the revised factors could also influence future investment decisions and allocations as they make investment grade assets less attractive and below-investment grade assets more attractive. The factors would also increasingly deviate from the factors used in S&P's capital model. As a consequence, careful review of the development of these factors is warranted.

<sup>1</sup> The American Council of Life Insurers (ACLI) is a Washington, D.C.-based trade association with 284 member companies operating in the United States and abroad. ACLI advocates in federal, state, and international forums for public policy that supports the industry marketplace and the 75 million American families that rely on life insurers' products for financial and retirement security. ACLI members offer life insurance, annuities, retirement plans, long-term care and disability income insurance, and reinsurance, representing more than 90 percent of industry assets and premiums. Learn more at [www.acli.com](http://www.acli.com).

<sup>2</sup> Life Risk Based Capital (E) Working Group, August 15, 2017 meeting materials, Attachment G.

## A. Concerns about the Methodology

We appreciate the efforts of the IRBC to create charges based on verifiable, objective data and technical analysis. At the same time, we recognize that elements of judgment have inevitably entered into the process. We believe that some of these elements merit further scrutiny and refinement, as follows:

### 1. Discount rates

We observe that a significant portion of the increase in C-1 factors results from the use of a significantly lower discount rate: 3.25% versus the previous 6%. The development of this rate merits careful review. The discount rate possesses three critical characteristics: (a) it is based on long-term expectations, (b) it is risk-free, and (c) it is after-tax. Our comments on each of these characteristics are:

- a. We support the use of long-term expectations. We regard this as appropriate for use in developing factors that are intended to be reasonable in a range of economic environments.
- b. We do not support the use of risk-free rates, as such rates are inconsistent with the investments held by insurance companies and therefore introduce significant conservatism into the measurement. A long-term, historically based, average credit spread should be included. This would increase the (pre-tax) discount rate, perhaps by 140-180 basis points. The argument is raised that this would require modeling of defaults on the assets held. We believe that the effects could be approximated without modeling.
- c. We do not support the use of after-tax rates. Although the Academy's documentation indicates that after-tax rates were used previously, we have not yet found evidence to verify this. Also, if the 6% is post tax, that implies a pre-tax rate in the neighborhood of 8.5% or more. More importantly, we are not persuaded that it is theoretically appropriate to use *after-tax* discount rates in determining *pre-tax* RBC factors, as this would seem to double-count the effects of tax. We would invite additional consideration of this issue.

Overall, we think an appropriate discount rate should be significantly higher than the proposed 3.25%.

### 2. Risk premium offset

We support the risk premium offset to account for the effects of statutory reserves, but question the use of mean expected rates. As was done in 1992, the risk premium used was the AVR basic contribution amounts, which are set based on expected defaults. However, the basic contribution is not the only contribution to AVR. AVR has a target funding level, and 20% of the shortfall to that target is an additional contribution each year. Similar to policyholder reserves, the AVR includes a margin for adverse deviation. .

Statutory reserves are intended to be moderately conservative, normally about one standard deviation above the mean. Therefore the use of mean values for the risk premium offset is inconsistent with the broader statutory framework. Using a risk premium that is based on a conservative provision would more appropriately capture the provisions incorporated into the reserves.

### 3. Lack of consideration of other asset classes

As we support retaining a simple structure for the bond component of RBC, we support the recommendation that there be only one set of C-1 factors for use in the Life RBC formula. As we noted in our August 7 letter on Non-modeled securities, we believe a significant shortcoming in the development of factors was not taking the experience of other asset classes into account but rather using only senior unsecured corporate bond experience as the basis for developing factors intended to apply to a broad array of asset types.

Insurance company portfolios include a wide range of asset types. Simply assuming that all of these asset types have the same default and loss-given-default experience as public corporate bonds ignores studies that show experience does differ and that difference should be taken into consideration. In particular, the Society of Actuaries (SOA) completed a private placement study several years ago and is in the process of updating this study. Municipal bond and sovereign debt experience studies are also available showing they have much better default, recovery and ratings migration experience than corporate bonds. While these studies may not be as robust as the corporate bond studies, the results should still be considered and blended with the corporate bond results to develop capital factors that can be applied across the diverse array of asset types held by insurance companies.

We plan to address this further in follow-up letter.

### 4. Use of a greatest loss construct

The Academy's report documents, without explanation or quantification, the use of a "greatest loss" construct, in which losses are assessed at the worst point of a multi-year projection. The report notes that this approach is more conservative than pre-funding the cumulative losses.

We believe that the use of a "greatest loss" construct is flawed for purposes of determining C-1 capital charges, for the following reasons:

- A "greatest loss" construct would be appropriate *only if the intent were to assess the likelihood of the firm's survival as a whole*. This is clearly not the case in this exercise. Instead, the intent is to measure the losses that are expected to occur due to the long-term performance of a single, specific asset class. As a result, a "greatest loss" construct is being inappropriately applied as other parts of the RBC may have greatest losses at other durations..
- The "greatest loss" approach would inherently omit the effects of certain recoveries. Because the issue is not the survival of the firm as a whole, these recoveries should be included.

Accordingly, we believe that the modeling should be performed using a cumulative loss construct.

## **B. Questions about the Methodology**

As mentioned in our introductory comments, during the course of our review we have identified questions about the methodology. Once we receive answers to these questions, we may provide additional comments to the IRBC, particularly if the answers indicate issues of concern. Our questions to date are as follows:

### 1. Sensitivity analysis

As a general comment, in a number of areas, a sensitivity analysis relative to assumptions would be useful. We have formed our own judgments, based in part on the attribution analysis, of those key items, but further analysis would be useful. In particular, where any simplifications or shortcuts were taken it is important to show that there was not a material impact.

### 2. Recovery rates

The recovery rate assumption has changed materially from prior modeling. We have several questions about the approach used to derive this assumption.

- a. Originally, recovery was assumed to vary by rating; now it is constant across classes. This will obviously create higher losses for the higher quality classes and lower losses for the lower classes. This result is inconsistent with assumptions in the initial RBC, and is also inconsistent with the assumptions used in Principle-Based reserves. We would like to better understand whether these inconsistencies are justified.
- b. The documentation notes that recovery assumptions were set based on rating immediately prior to default. There does not appear to have been any analysis as to whether the rating at some earlier point has an influence on the rate of recovery. There should be some tracking back to the rating at issue, or some prior point to either validate that a prior rating has no impact, or to verify if it does have impact.
- c. There has been a material change in the recovery assumption by economic state that is explained only by referencing propriety data. Verbal comments during the Academy's presentation at the NAIC Summer National Meeting indicated that the variance of loss by economic state was wider than previously assumed. This is an area that needs more documentation and discussion.
- d. The report indicates that out of over 4400 defaults, data on only 1260 defaults, i.e. only senior unsecured bonds, was used. This limited data set was then used to develop recovery by rating class and by economic state. We would like to see further documentation and analysis, including an assessment the credibility of the data. As noted below for default rates, there appears to have been only a single year of 'continued contraction'. Were recovery assumptions based on that single year of data?
- e. No distinction was made by instrument type, i.e. lien position. The report indicates that senior secured bonds have better experience than senior unsecured bonds, which in turn have better experience than subordinated bonds. The rating agencies use a notching system to adjust ratings by issue for the seniority. This notching implies that the mix of assets by letter grade is not likely to be constant, with lower quality letter grades expected to have higher proportions of subordinated issues. This would potentially impact the recovery that should be expected by class. We would like to better understand the rationale for not using instrument type in the derivation of recovery rates.

### 3. Default rates – smoothing process

The documentation outlines a process used for smoothing the baseline default rates. When reviewing the rates, it is noticeable that the annual rates are anything but smooth, in some cases showing an oscillating pattern by duration. Of greater concern is whether they in total replicate the underlying experience. We would like to better understand the pattern of baseline default rates and whether the smoothed rates replicate the underlying experience.

### 4. Default rates – change by environment

It is not clear from the documentation whether the scalars developed were done based on the smoothed or raw default data. If done independent of the smoothing, there should be

reconciliation that the resulting combination as used in the model is representative of actual history.

We also note that the scalars are much more extreme than used in the past. For example, for A2, the 1992 modeling used a scalar of 130% for the worst environment, while the current uses 272%. Also, in the prior modeling, the scalars increased for lower quality investments, while the current proposal has them decreasing for lower quality. Similar to 1.d.above, there is a question about the credibility of the underlying data for each of the cells. Given the magnitude of these changes, the attribution analysis does not seem to reflect these changes in default rates as an explanation for the change. We believe additional documentation and explanation of the data underlying those scalars, including the volume and credibility of the data is important.

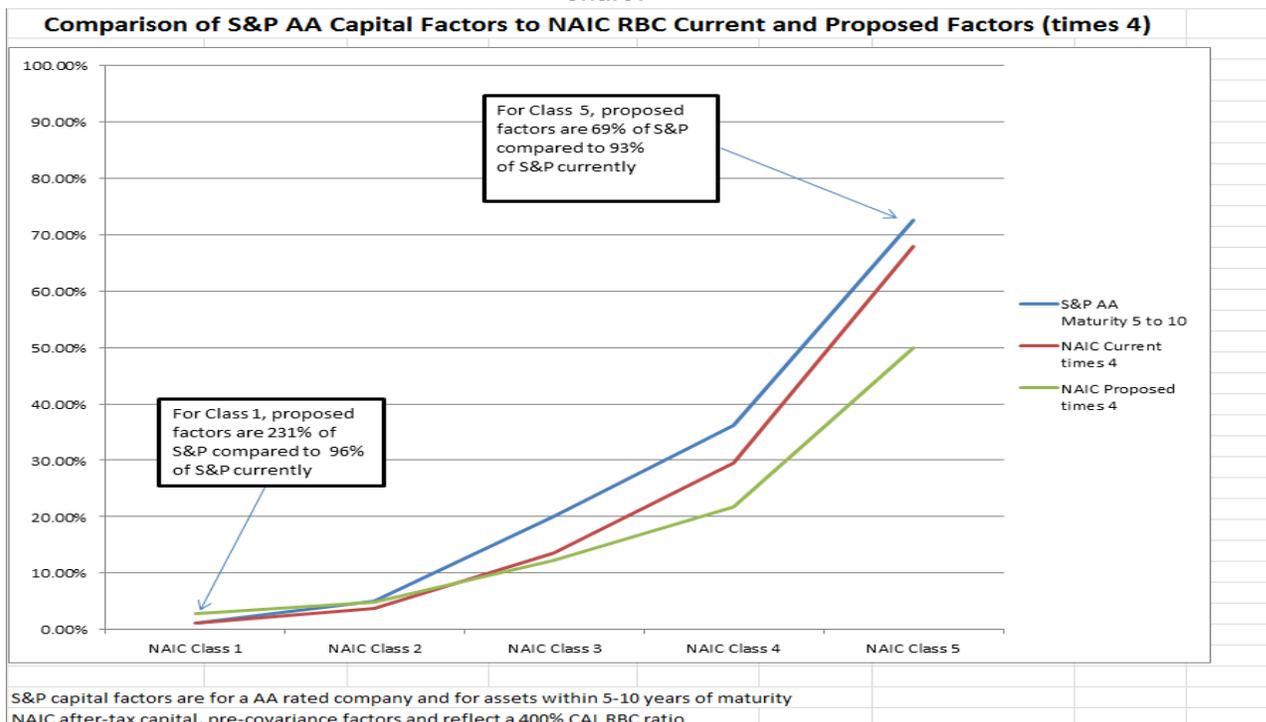
5. Relationship of experience database with industry holdings

The modelers appear to have done significant analysis of the make-up of the industry portfolio by size, quality, and other factors. One analysis that seems missing is any look at the mix of holdings by industry, and particularly a comparison of the default and recovery databases with industry holdings. In particular, during the recent recession, a significant amount of the defaults and losses came from financial firms, yet the insurance industry has traditionally been underweighted in this sector. We would like to better understand how comfort was established that the experience used is relevant to the asset portfolios of the insurance industry.

6. Increased deviation from S&P factors

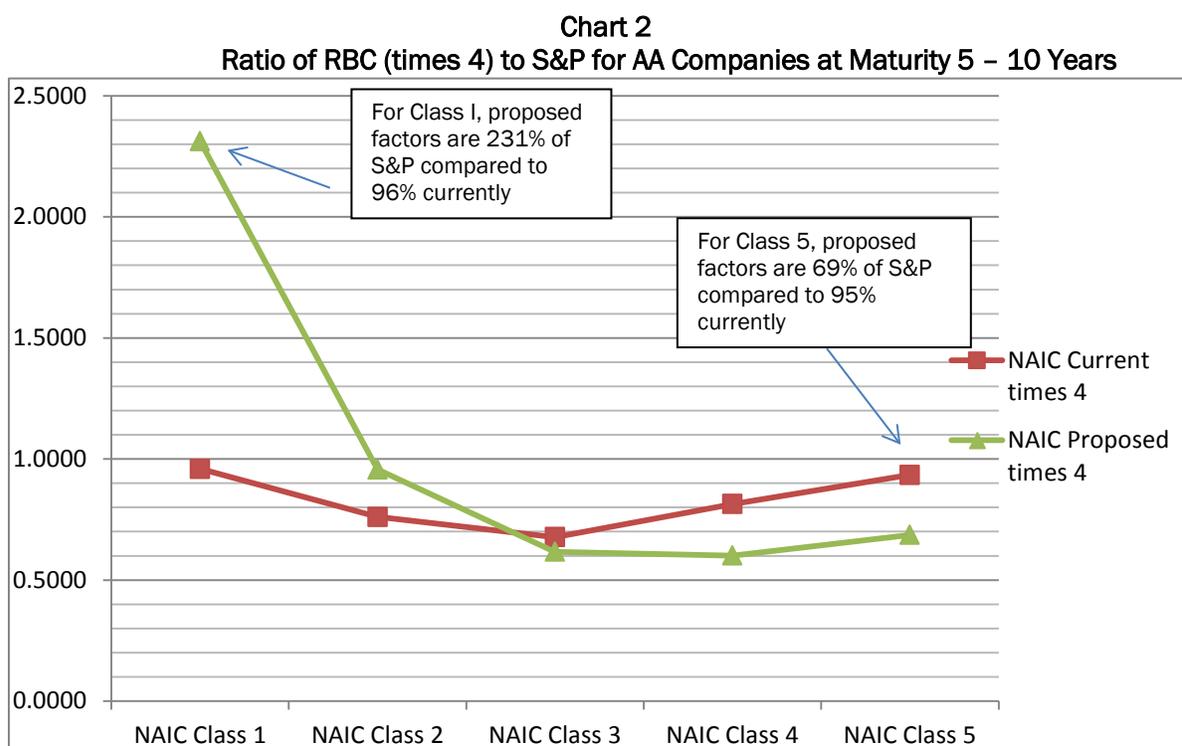
We compared the proposed factors to those used by Standard & Poor’s in their analysis of insurance companies. The relative capital requirements for high quality vs lower quality was already lower for S&P relative to the current RBC factors, and the proposed changes move even further away (see Chart 1). We would like to better understand how it was determined that the proposed factors are intuitive and reasonable.

Chart I



S&P is the values used by S&P for a AA Insurance company, maturities of 5 – 10 years  
 RBC is the proposed after-tax factors collapsed to a 5 class scale (Academy Report, page 11)

Chart 1 shows the S&P factors applied to assets to determined capital requirements for an AA rated life insurer. This is compared to the current (red) and proposed (green) RBC pre-tax factors multiplied by 4 to approximate what a company would target for capital as a multiple of RBC. This shows that the proposed RBC factors have a different relationship compared to S&P values. Chart 2 is a different view of the same data, showing the ratio of the RBC current and proposed factors to the S&P factors.



S&P is the values used by S&P for a AA Insurance company, maturities of 5 – 10 years  
 RBC is the proposed after-tax factors collapsed to a 5 class scale (Academy Report, page 11)

## C. Other comments

### 1. Implementation questions

It is important for the NAIC to begin to address the implementation questions that were raised last year in ACLI's October 1, 2014 letter. The answers to some of those questions could also impact views and analysis of this proposal. For example, how much does the asset classification system of the NAIC differ from the Moody's rating used to develop the factors, and how will that be factored or considered? For example, if Moody's assigns a rating of Baa+, but another NRSRO assigns a Baa, the classification and resulting RBC factor would not match the Moody's rating.

## 2. Number of rating classes

As we noted in our August 7 letter, ACLI supports retention of the current framework of 6 risk classes, contrary to the recommendation in the Academy Report. The key points of our prior letter are:

- No case has been made that this improves the regulator use of RBC
- The process to change is expensive and time consuming, on behalf of the NAIC, regulators, and industry..
- As this impacts all insurers, not just life insurers, the discussion needs to bring all business lines in at once and not make decisions just for Life RBC.

### Conclusion

We look forward further discussions regarding the proposed C-1 factors now that the documentation is available as a reference point. The documentation provided a useful resource to enable questions that could not previously be articulated.



cc Michele Wong, NAIC  
Ed Toy, NAIC  
Nancy Bennett, American Academy of Actuaries  
Jerry Holman, American Academy of Actuaries

3601 Vincennes Road, Indianapolis, Indiana 46268  
Phone: 317.875.5250 | Fax: 317.879.8408

[www.namic.org](http://www.namic.org)

122 C Street N.W., Suite 540, Washington, D.C. 20001  
Phone: 202.628.1558 | Fax: 202.628.1601

September 29, 2015

Ms. Elaine Wieche  
Chair, Investment Risk-Based Capital (E) Working Group  
National Association of Insurance Commissioners  
1100 Walnut Street, Suite 1500  
Kansas City, MO 64106-2197

Attn: Ed Toy, NAIC  
Via Email: [EToy@naic.org](mailto:EToy@naic.org)

Re: Recommendation of Bond Base Factors

Dear Ms. Wieche,

The National Association of Mutual Insurance Companies (NAMIC) appreciates the opportunity to comment on the American Academy of Actuaries (Academy) report titled, “Model Construction and Development of RBC Factors for Fixed Income Securities for the NAIC’s Life Risk-Based Capital Formula” (The Bond Report).

NAMIC is the largest property/casualty insurance trade association in the country, serving regional and local mutual insurance companies on main streets across America as well as many of the country’s largest national insurers. NAMIC consists of more than 1,300 property/casualty insurance companies serving more than 135 million auto, home, and business policyholders, with more than \$208 billion in premiums accounting for 48 percent of the automobile/homeowners market and 33 percent of the business insurance market. More than 200,000 people are employed by NAMIC member companies.

NAMIC has an interest in the Academy’s Bond Report, because some of the recommendations have the potential to impact our members in a negative way. The Bond Report’s recommendations include a change in the structure to increase the number of factors to 14 from the current six and applying those factors to all fixed-income assets, including municipal bonds, sovereign bonds, private bonds, and hybrid bonds. The Academy’s recommendations are based upon a careful and detailed analysis, using robust and credible data and are intended to be applied to the life, health and P/C RBC formula equally. NAMIC members have concerns about a decision to require the P/C investment risk factors to be the same as life without consideration about how any change would be incorporated in and impacted by the rest of the P/C formula.

The Bond Report’s recommendation to apply the proposed corporate bond factors to all fixed-income assets is based on credible experience data not being available – in particular for municipal bonds. Using factors developed using corporate bond experience for municipal bonds is a concern because the capital charges would not be correlated to the appropriate default risk. Numerous studies of municipal bond experience provide evidence to support a difference in factors for municipal bonds. We have compiled a list of studies that provide detailed comparisons of default and recovery experiences between similarly rated municipal bonds and corporate bonds and the results show that municipals

perform better than corporates both in terms of default and recovery rates. A summary of these studies is included in our August 5, 2015 comment letter to the working group and is included as an attachment to this letter.

With respect to expanding the NAIC designation structure to 14 factors from the current six factors, our members have significant concerns with adding more complexity and cost to managing their investment portfolios for very little perceived benefit. We submit any decision to change the P/C bond factors should assess: 1) whether there is an undercapitalization problem among P/C bond investments that should be addressed; 2) whether there are correlations between the investment risk factors and the underwriting and catastrophe risk factors that need to be weighed and; 3) whether the differences between the life and P/C formula need further investigation. We assert that all of these decisions are best made by the P/C RBC Working Group and not in isolation of other P/C RBC considerations. To assist in that discussion we propose the following comments and concerns.

1. **Problem Assessment** - The Investment RBC effort was not initiated because there was a problem or capital insufficiency identified in the risk factors for P/C bond investments. This effort began as a life-only update of the C-1 factors. The rationale for considering change to the P/C factors was always related to consistency across AVR and non-AVR companies. Minor adjustments to the factors to address changes in the market experience were expected, but expanding the designation scheme from six to 14 when the market did not reflect a change was not anticipated. P/C companies survived the 2008 financial crisis with very low levels of insolvencies. The RBC formula was one tool that provided an anchor for property/casualty insurers.
2. **Correlated RBC Factors** - The P/C RBC formula was developed comprehensively. The factors added for investment risk were all determined in relationship to the primary underwriting factors for premium and reserves. Consideration of the type of claim obligations, liquidity needs, and consistency between the time horizons were all part of the analysis. Attempts to re-evaluate the formula one factor at a time will produce a very different result.
3. **Differences between Life and P/C RBC Formulas**
  - a. Time horizon was set for consistency with other P/C factors.
  - b. Tax treatment is different for life and non-life investment risk factors.
  - c. The liquidity needs differ for P/C companies. P/C liabilities are not dependent on macroeconomic cycles. They arise unpredictably.
  - d. The differences between the formulas are significant and the business models are fundamentally different in respect to asset/liability matching.
  - e. Accounting differences exist – P/C and health share common accounting for NAIC designations 3-6 whereas life uses amortized cost for NAIC designations 3-6.
  - f. Payments for auto repairs, medical costs, and damage to property are significantly impacted by inflation. The equity market keeps pace with inflation, so investments in this sector are sound business practice that helps P/C insurers keep pace with their claim costs.
  - g. The structure of the formula is different and the coefficients act differently in each formula

P/C insurers are currently responsible for informational filings related to Catastrophe RBC, and, starting in 2015, Operational Risk. These new factors are significant adjustments for P/C insurers. Additional changes to investment risk factors at this stage would result in more changes to the P/C RBC formula and additional capital pressures. Since there is no perceived weakness in the P/C capital levels, and no perceived changes in the market warrant additional capital, it would be imprudent at this time to add to the capital burden. Now that the work by the Academy has been completed and several recommendations have been made, we suggest the working group refer the Report to the

Property/Casualty RBC Working Group to set up joint meetings with both working groups and to discuss industry concerns over the impact of the changes.

Thank you for your consideration of these comments on this matter of importance to NAMIC members and their policyholders. If there are any questions please feel free to contact me at 317-876-4206.

Sincerely,

A handwritten signature in cursive script that reads "Jonathan Rodgers". The signature is written in black ink and is positioned above the typed name and title.

Jonathan Rodgers  
Accounting Regulation Analyst  
National Association of Mutual Insurance Companies

3601 Vincennes Road, Indianapolis, Indiana 46268  
Phone: 317.875.5250 | Fax: 317.879.8408

[www.namic.org](http://www.namic.org)

122 C Street N.W., Suite 540, Washington, D.C. 20001  
Phone: 202.628.1558 | Fax: 202.628.1601

August 5, 2015

Ms. Elaine Wieche  
Chair, Investment Risk-Based Capital (E) Working Group  
National Association of Insurance Commissioners  
1100 Walnut Street, Suite 1500  
Kansas City, MO 64106-2197

Attn: Ed Toy, NAIC  
Via Email: [EToy@naic.org](mailto:EToy@naic.org)

Re: RBC for Non-Corporate Fixed-Income Bonds – Municipal Bonds

Dear Ms. Wieche,

The National Association of Mutual Insurance Companies (NAMIC) appreciates the opportunity to comment on the development of RBC factors for non-corporate fixed-income bonds, particularly as it relates to municipal bonds.

NAMIC is the largest property/casualty insurance trade association in the country, serving regional and local mutual insurance companies on main streets across America as well as many of the country's largest national insurers. NAMIC consists of more than 1,300 property/casualty insurance companies serving more than 135 million auto, home, and business policyholders, with more than \$208 billion in premiums accounting for 48 percent of the automobile/homeowners market and 33 percent of the business insurance market. More than 200,000 people are employed by NAMIC member companies.

As a trade association representing mostly mutual insurance companies in the property/casualty insurance industry, NAMIC has an interest in the development of a new factor for municipal bonds. Property/casualty insurers, particularly mutual property/casualty insurance companies invest significantly in municipal bonds. In fact, municipal bonds represent more than a third of the total bond exposure for property/casualty insurers, and close to half of the total bond exposure for mutual property/casualty insurance companies as reported by the NAIC Capital Markets Bureau in April 2015<sup>1</sup>. Some of the highlights from that report are below:

- Corporate bonds and municipal bonds represent 52% and 17.2%, respectively of total mutual insurance companies' bond exposure as of year-end 2013 (Stock Insurance Companies: 50% and 13.8% respectively)
- For property/casualty mutual insurance companies, municipal bonds represented 43.1% of their total bond exposure in 2013. (25.7% corporate bonds)
- For property/casualty stock insurance companies, municipal bonds represented 35.2% of total bond exposure in 2013. (31.9% corporate bonds)
- Nearly 90% of all bonds carried NAIC 1 and NAIC 2 designations for mutual insurance companies in 2013

Municipal bonds are prevalent among property/casualty companies, since they are a more conservative investment that has tax advantages with very low risk of default. These advantages come at a price, as the yields for municipal bonds are lower than similarly rated corporate bonds. NAMIC believes these differences should be reflected in the NAIC category assigned.

The Investment Risk-Based Capital Working Group has indicated their preference to continue using the same RBC factor for corporate bonds and municipal bonds, unless interested parties can make a case that these bonds should be treated differently. The American Academy of Actuaries has suggested the factors currently under development for corporate bonds could also apply to other bonds such as municipal, sovereign, preferred, and hybrid bonds. A case can be made for different treatment based on credible default and recovery experience. In fact, the initial decision of the working group to omit municipal bond experience from the corporate bond study was based on the intention to create unique RBC factors. Indeed, members of the working group agree there is a significant difference in risk; however, coming up with data supporting RBC factors that reflect that difference is an open issue. For that reason in the letter, we highlight studies that illustrate that the differences in historical default rates and recovery experience and the existence of bond insurance for municipal bonds distinguishes between corporate and municipal bonds and supports a discounted factor to reflect these variances.

#### Default Studies

According to Moody's Investors Service, municipal bond defaults have remained extremely infrequent since the financial crisis<sup>2</sup>. Since the 1970s, municipal bond defaults have been rare. S&P reported only 47 municipal bond defaults between 1986 and 2011 and Moody's reported just 71 defaults between 1970 and 2011<sup>3</sup>. Of Moody's 71 defaults, only five were general obligation bonds and most were in the categories of housing or health care. Some other statistics uncovered in the Moody's default study include:

- Historically, municipal bonds are between 50 and 100 times less likely to default than corporate debt with the same rating.
- There have been no municipal bond defaults on bonds rated AAA and less than one in 2,500 A rated municipal bonds default.
- Single A rated municipal bonds have less than one-tenth the defaults of AAA Rated corporate bonds.
- 15 of the 50 States have triple AAA credit ratings, only three U.S. corporations have AAA rated debt.
- General obligation bonds have had an even lower default rate than revenue-backed bonds.

<b>Municipal Bond Defaults Compared To Corporate Bonds With The Same Rating</b>		
<u>Rating</u>	<u>Municipal Bond</u>	<u>Corporates</u>
AAA	0.00%	0.48%
AA	0.01%	0.86%
A	0.04%	2.22%
All Ratings	0.13%	11.17%

#### Recovery Rates

When it comes to municipal bonds, the recovery rate – the extent to which bondholders end up collecting what they're owed following a default – for general obligation bonds is close to 100%.

Many municipal governments have the ability to secure their debt with a general obligation pledge, so the debt is secured by the full faith, credit, and taxing authority of the issuer. Typically, the issuer in this case is allowed to exercise its taxing power to raise enough money to repay bondholders.

Historically, municipal bond recovery rates have been high overall – about 65% on average (1970-2011) compared with 49% for corporate bonds (1987-2010). Municipal recovery rates are highly dispersed across individual bonds. The Moody's report offers a beta distribution that charts the density estimate for recovery rates, showing 55% of defaulted bonds recover above 70% and 25% of bonds recover below 30%. Even the city of Detroit, whose \$532 million in general obligation bonds were in default saw a 74% recovery rate<sup>4</sup>.

#### Bond Insurance

Bond insurance is another way to help reduce the loss associated with a default. While, not all municipal bonds carry insurance, those that do offer investors an added layer of protection against financial losses in the event of a default. In the case of Detroit's general obligation bonds, insurers of these bonds have stated they will pay investors 100% of principal and interest payments<sup>5</sup>. The value of bond insurance is confirmed. Insurance company interests are aligned with the interests of insured debt investors and in a Chapter 9 bankruptcy situation, insurers act as a unifying force and are motivated to maximize their recoveries. During initial negotiations, it was believed that general obligations bond investors would only receive 10% recovery, but because the bond insurance companies negotiated strenuously with Detroit and cut deals in their best interest, the recovery rate was much higher.

#### Conclusion

There is significant evidence to support a difference in factors for municipal bonds. The corporate bond studies generated by the Academy did not even include municipal bond experience data so any revised factors adopted would not accurately reflect the appropriate factors for these very different bonds. Finally, RBC treatment has the effect of encouraging or discouraging behavior. In the event municipal bonds are treated the same as corporate bonds with much higher yields, wouldn't that have the unintended consequence of pushing insurers into more risky investments? That should not be the goal of the Investment Risk-Based Capital Working Group. We would suggest deferring your decision to apply the corporate bond factors to municipal bonds until you have had more time to provide for a full review of the differences between the two bond sectors.

Thank you for your consideration of these comments on this matter of importance to NAMIC members and their policyholders. If there are any questions please feel free to contact me at 317-876-4206.

Sincerely,



Jonathan Rodgers  
Accounting Regulation Analyst  
National Association of Mutual Insurance Companies

Ms. Elaine Wieche

Chair, NAIC Investments RBC Working Group

Dear Ms. Wieche:

The North American CRO Council (CRO Council) is a professional association of Chief Risk Officers (CROs) of leading insurers based in the United States, Bermuda and Canada. Member CROs currently represent 30 of the largest Life and Property and Casualty insurers in North America. The CRO Council seeks to develop and promote leading practices in risk management throughout the insurance industry and provide thought leadership and direction on the advancement of risk-based solvency and liquidity assessments.

The CRO Council appreciates the opportunity to comment on the proposed expansion of NAIC C-1 rating grades, as well as the methodology driving the proposed factors. We acknowledge the significant work behind these proposals and recognize that there is no such thing as a perfect capital framework.

The CRO Council also understands that the purpose of developing RBC is to define minimum solvency requirements. As a result, the changes that are being considered may not appear, on the surface, to create significant issues. However, as CROs we feel it is critically important for the NAIC to factor in the potential unintended consequences from these proposed changes and to recognize that, whether appropriate or not, the RBC regime is used for many purposes other than defining minimum capital requirements including by rating agencies, capital markets participants, shareholders and policyholders. Therefore, the NAIC must be sensitive to the potential impacts of changes it makes to the RBC framework.

The CRO Council believes that the proposed model has merit but may contain potentially problematic elements that should be carefully reviewed and addressed before adoption. Because of the broad scope and financial significance of this project, it is important that the NAIC take the time to thoroughly consider all of the input received in making their final decision. In light of the scale of this project and the recent release of the AAA report, we believe a longer review period is needed. Impacted parties need additional time and an open dialogue with the C-1 NAIC Work Group to fully review and understand the proposed

model. While this model was developed over many years, given the issues we will discuss in this letter, we believe that more time and access to the actual model is warranted.

In reviewing the proposal, the CRO Council has 4 observations:

- More work and discussion is required to assess the benefits and costs of either maintaining the 6-factor approach or pursuing the 14-factor category system.
- It is extremely important for the NAIC to investigate and understand the unintended consequences of the proposed changes.
- While public senior unsecured data is very useful, it is also very important to consider the experience of all other asset classes in forming the final proposal.
- The C-1 Work Group's use of historical data should be reviewed in context of the appropriateness of the data used and the inferences and conclusions made from the data.

The CRO Council believes that the AAA general framework provides a good starting point for continued dialogue between the C-1 Work Group and the industry.

**More work and discussion is required to determine whether the NAIC should maintain the 6-factor system or pursue a change to a 14-factor category system.**

It can be stipulated that 14 rating grades can more finely differentiate the riskiness of assets compared to 6 rating grades. A more granular system will provide a better alignment between the true underlying investment risk with the corresponding RBC capital charge. This alignment would encourage insurers to select assets based on their fundamental risk characteristics without needing to give consideration to the capital impacts of those decisions.

That benefit does not come without a substantial cost. A 14-factor framework will require a significant investment in order to implement the various changes required to implement the expanded framework. In the final analysis, the NAIC will need to decide whether the additional rating grades will make statutory capital better for serving its intended purpose. C-1 charges are not intended to replace an economic capital framework. Many insurers apply multipliers to these factors to conform to perceptions of rating

agency requirements. It may be of limited utility to create more precision on a factor that insurers and rating agencies will multiply by a significant factor.

Industry participants have differing views on the benefits of a 14 category system relative to the costs. The CRO Council believes that prudence and caution should be used when making a change of this magnitude given the impact and cost on many constituencies including:

- Accounting, trading and risk systems will need to be re-coded to account for this change, opening companies up to significant operational risk.
- Certain legal agreements may need to be identified, re-negotiated and updated to the extent provisions rely on the NAIC RBC system.
- Companies will need to navigate the inevitable confusion of vastly different rating scales in Life verses P&C companies or within multi-line insurance companies. This confusion will also arise within Life companies that hold structured and non-structured assets.

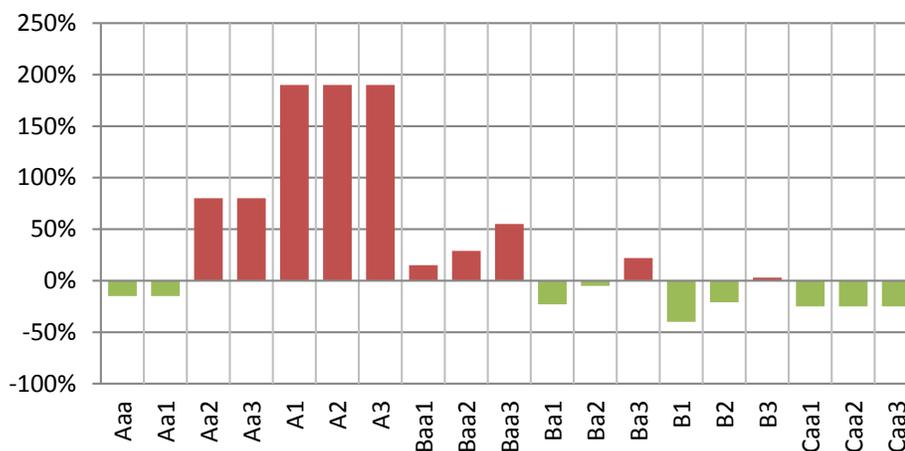
A transition to 14 categories would need to be done thoughtfully and phased-in over a span of multiple years.

**It is extremely important for the NAIC to investigate and understand the unintended consequences of the proposed changes.**

The CRO Council believes that a change to a capital framework should *first, do no harm*. The past 27 years of banking regulation have shown us the dangers of unintended consequences driven by well-intentioned capital standards. The current proposal may be designed to be based solely on historical experience, but it significantly shifts incentives from investment grade securities to below investment grade securities.

### **Percentage change of proposed factor by Moody's rating**

*Before tax current factor to before tax proposed factor*



This framework may provide incentives for shifting investment from high grade public debt to high yield public debt. The near doubling of capital factors for single 'A' corporate borrowers will make it very difficult for high grade corporate borrowers to obtain funding through the Life Insurance industry. Although there will be some additional incentive to invest in 'Aaa/Aa1' debt, the lack of supply will have the potential for significant increases in concentration risk.

US Life insurers hold a large portion of the corporate debt market. Based on STAT filings, the US Regulated entities of Life Insurers hold a significant portion of the 10+ year debt in the Barclays US Corporate Investment Grade Index. Incentives to shift investment from 'A' to high yield credit should not be taken lightly.

If significant funding sources move from 'A' to high yield credit:

- Increased demand on high yield credit will create an imbalance in supply and demand, compressing spreads below economic levels.
- Significant reduction of demand for 'A' debt will pressure natural 'A' companies to lever balance sheets to follow that demand.

The NAIC should think carefully about the impacts of this proposed change regardless of the modeling.

As a result of this concern, we believe it is imperative that industry be given time to assess the details of the study to make sure the historical data appropriately represents the relative risks among these categories. Further, in order to avoid the potential disruption to the market, the NAIC may want to consider a phased implementation of their final proposal.

**While public senior unsecured data is very useful, it is also very important to consider the experience of all other asset classes in forming the final proposal.**

The study combines issuer-level default rates, senior unsecured bond recovery rates and unpublished rating agency statements to infer an issue-level Expected Loss (EL) framework. In discussing industry concerns about asset classes not included in the data set, the report states:

*Some interested parties believe that municipals, privates, sovereigns and other non-modeled securities have lower expected losses than corporates. However, this belief is tantamount to dismissing the credibility of the NRSRO ratings, thereby violating one of the constraints of the NAIC's RBC calculation to calculate C-1 from published data.<sup>1</sup>*

We disagree that a belief in asset class diversity discredits NRSRO ratings. The demonstrable fact that asset classes represent different risk profiles means that practitioners must be thoughtful in how available data is used. Furthermore, we have not been able to find a Moody's published report describing their bond rating methodology as a "global rating process" as suggested by the report. The published Moody's report we did find provides a contrast to the above statement. The published Moody's report states that:

*[T]he most important distinction is that the default experience and credit losses within a given rating category have historically varied across these markets reflecting the fact that investors in the various markets have historically had fairly distinct credit concerns, and that Moody's has responded (as have other rating agencies) by incorporating these different concerns into rating assignments.<sup>2</sup>*

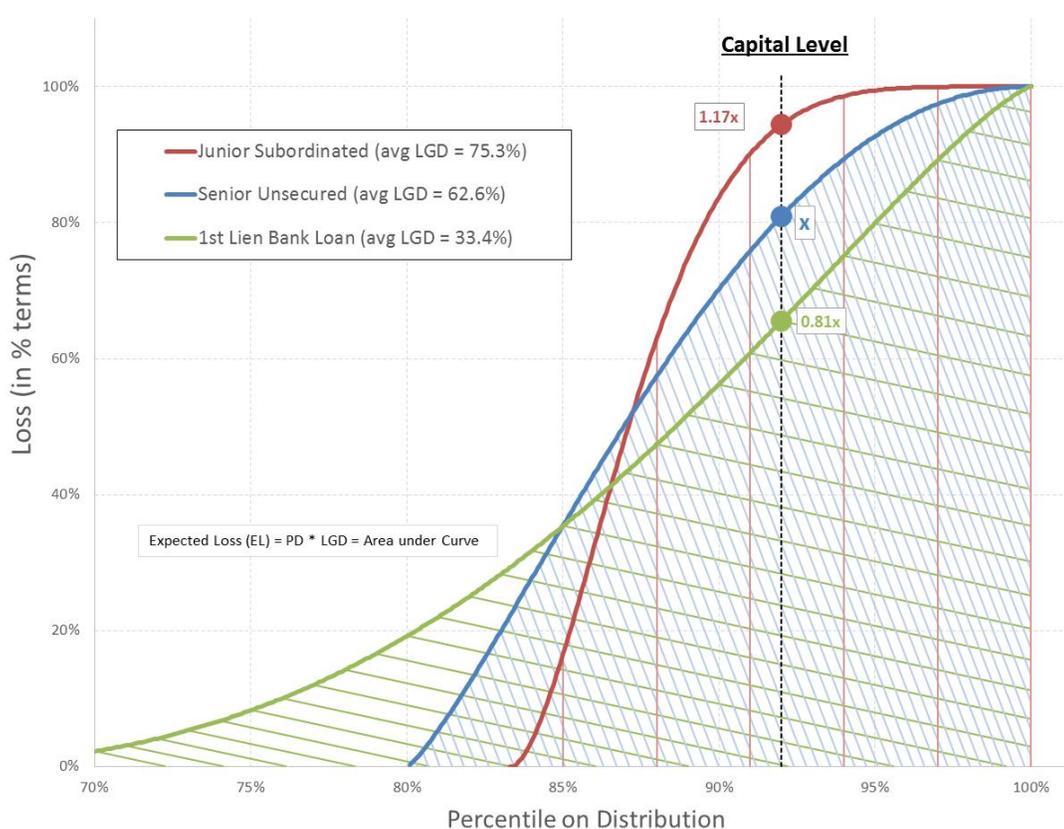
Although this report is dated, it represents over half the years used in this study and we are unable to find a newer published report to refute it. The NAIC proposal assumes that two bonds with the same expected

<sup>1</sup> American Academy of Actuaries: *Model Construction and Development of RBC Factors for Fixed Income Securities for the NAIC's Life Risk-Based Capital Formula*, August 2015 (p. 17)

<sup>2</sup> Moody's Investor Service: *The Evolving Meaning of Moody's Bond Ratings*, August 1999

loss (EL) will experience the same loss in a stress event. This is not true. EL alone is not a sufficient measure for a capital framework. In order to appropriately estimate losses in tail scenarios, a more robust capital framework is needed that requires the EL be split into a Probability of Default (PD) and a Loss Given Default (LGD). This is necessary because the loss distributions have different shapes causing different levels of loss in the tail. Consider the following illustration:

**Loss distributions for 3 instruments with same EL, different PD & LGD<sup>3</sup>**



In this example, all 3 instruments have the same EL and LGD volatility but PDs and LGDs are different, leading to different shaped distributions. The shaded area under each instrument's curve is its EL, which

<sup>3</sup> As noted in American Academy of Actuaries *Model Construction and Development of RBC Factors for Fixed Income Securities for the NAIC's Life Risk-Based Capital Formula* report, the distribution of LGD is an important driver of the distribution of losses. In this example, LGDs follow a beta distribution with the same standard deviation of loss for all instruments and with the indicated average loss by instrument type (from Moody's "Annual Default Study: Corporate Default and Recovery Rates, 1920-2014"). The beta distribution is commonly used for modeling LGD and has been used for such purposes by both Moody's and S&P.

is equal to the shaded area under each of the other instruments' curves. Despite having equivalent EL, the 3 instruments have significantly different levels of capital due to the different shapes of their curves. Therefore, even if EL is the key area of focus, the PD and LGD within that number are extremely important for determining capital. This concern is particularly relevant for Insurer-issued private placements. Even if the SVO rates these obligations to match a Moody's 'EL', the covenant-driven higher recoveries will drive lower losses in a tail scenario.

The CRO Council is aware that consideration for PD and LGD is not built into the current 6 factors. Further, we are not necessarily arguing for a more robust RBC framework that will have additional implementation costs. However, we do believe that the interpretation of **all** historical data should be factored into the development of the final proposal.

The NAIC may want to consider a framework which would segment modeling assumptions by asset class and debt type where sufficient data exists to show material differences. A similar proposal recommending a delineation between asset classes was made by the SVO and submitted to the Valuation of Securities Task Force at the NAIC national meeting in August, 2011<sup>4</sup>. The same modeling framework could be used, simply with different inputs. If data does not exist for a certain asset class or debt type, public corporate senior unsecured charges could be used. However, the lack of unique data for a few asset classes does not provide compelling justification to ignore the areas where such data does exist and does suggest material differences. Even if that data is imperfect, its relevance should be considered. RBC charges should be aligned with the underlying risk wherever it is considered both significantly beneficial and cost effective to do so. This is directly equivalent to the separate C-1 frameworks used for Commercial Loans and the various types of Structured Credit.

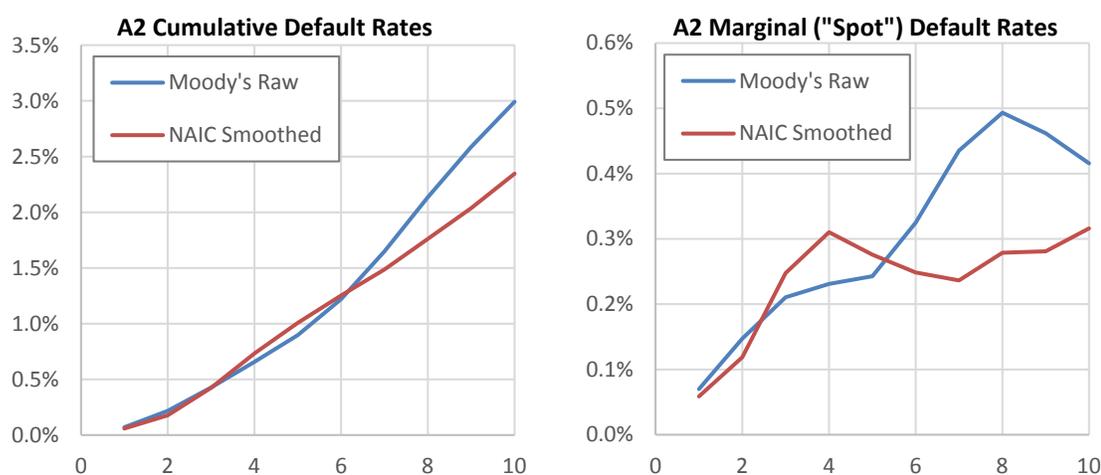
Based on our analysis of the framework, we believe the proposal needs to be enhanced in several areas. The framework over-simplifies rating agency data and fails to acknowledge the importance of recoveries in capital frameworks. A better way to encourage risk-sensitive behavior would be to recognize the real differences among asset types with regard to PD and LGD.

<sup>4</sup> *Report on the Recalibration Effort*, August 3, 2011, Bob Carcano, Senior Counsel, SVO

The C-1 Work Group's use of historical data should be reviewed in context of the appropriateness of the data used and the inferences and conclusions made from the data.

The CRO Council believes that there are flaws in the use and understanding of historical credit data within this proposal. Below we list concerns currently identified and would welcome the ability to discuss in more detail.

1. Smoothing of Moody's historical cumulative default rates introduces noise for the marginal default rates that are used in the model. The 99% R2 would seem to be a good fit but a plot of the output provides a different picture both for cumulative and marginal default rates. The quality of a smoothing procedure should be measured against the model inputs.



2. Default history is cyclical by nature and the time period covered includes roughly three 10 year cycles. As the default data increments from 1 to 10 years, a year of history is lost at each point. This, coupled with the cyclical nature of credit, causes some odd behavior in the calculated values. In the A2 Marginal chart above (blue line), the downward slope of years 9 and 10 is caused by this phenomenon, not the reality of how credit risk manifests. For investment grade corporates, marginal default rates are typically upward sloping with an eventual plateau. This issue is compounded when comparing to economic states which do include 10 full years of history. This causes calculated capital<sup>5</sup> to be overestimated because the average loss is underestimated while the tail loss is appropriately calculated.

<sup>5</sup> Capital is calculated as tail loss minus average loss.

3. The report downplays the importance of structure in LGD as well as the availability of granular recovery data. This is readily available in the LossStats data used for this report. Moody's Analytics also has similar data in their Default and Recovery Database.
4. The report dismisses the differences in Financial default rates and indicates that some of the included default history is likely not applicable. This is troubling and should be investigated further. Granular data is available through S&P and Moody's. Both have robust tools and data sets that could be used to better understand the default rates that are an important driver of capital charges.

### Final Thoughts

In conclusion, based on the significant issues identified during the short review period, the proposed framework needs further review, testing and refinement before implementation. The current framework has worked well for the past 25 years; it should only be replaced with a framework that is a demonstrated improvement.

Ms. Elaine Wieche  
Chair, NAIC Investments RBC Working Group  
National Association of Insurance Commissioners  
Via email to: [MWong@naic.org](mailto:MWong@naic.org)

September 29, 2015

Re: Proposals for Life Bond and Real Estate RBC

Dear Elaine,  
Thank you for the opportunity to comment on these two proposals.

Bond - Interest Maintenance Reserve

Under the current Interest Maintenance Reserve (IMR) rules, capital gains or losses (net of capital gains tax) on corporate debt securities, preferred stock, mortgage backed securities and derivatives transactions hedging those assets are classified as interest rate related gains or losses and transferred into the IMR provided such gains or losses were on issues which have not changed by more than one NAIC designation between the purchase date, and the date of sale, or have not been rated designated "NAIC 6" during that period. Our understanding is that a change in the level or operation of the IMR is not an intended result of the C-1 asset risk factor update. For that reason we believe that a proper transition from the current six NAIC designations to the proposed fourteen requires that:

- The NAIC designation change necessary to disqualify a gain or loss from IMR treatment will likely need to be increased to reflect the added granularity of the new scheme.
- Testing should be performed on the IMR outcomes under the new scheme versus the current scheme, and the needed fine-tuning adjustments made, to assure that the outcomes are consistent.

Real Estate – Adjustment for Unrealized Gain (Loss) and Asset Valuation Reserve (AVR)

The exposed proposal recommends that a portion of the difference between market value and carrying value of a property be used to adjust RBC. The introduction of an element reflecting the difference between the market value and depreciated cost of investment real estate produces variable RBC charges as illustrated on page 39 of the proposal. We believe that the associated review of AVR for this asset class should take into account both the proposed change in the base factor (from 15% to 8.5%) and the variation in the effective RBC noted above.

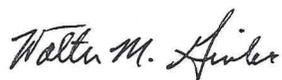
Overall Implementation

We suggest that at least two years be allowed between the adoption and the effective dates of a reorganization of factors this significant to permit time for:

- Companies and their vendors to modify the necessary work processes and associated systems in order to comply.
- An analytical review by the NAIC of anticipatory asset movements that might represent unintended or adverse effects.

We would be pleased to discuss these comments with the Working Group at its convenience.

Sincerely,



Walter M. Givler  
Vice President – Solvency Policy  
[wallygivler@northwesternmutual.com](mailto:wallygivler@northwesternmutual.com)



Principal Life Insurance Company

September 28, 2015

VIA email

Elaine Wieche  
Chair, Investment Risk-Based Capital (E) Working Group  
National Association of Insurance Commissioners  
153 Market Street  
Hartford, CT 06103

Michele Lee Wong  
Capital Markets Manager  
National Association of Insurance Commissioners  
One New York Plaza  
Suite 4210  
New York, NY 10004

Re: American Academy of Actuaries RBC C-1 Bond Factors Proposal

Dear Ms. Wieche:

This letter is written on behalf of Principal Life Insurance Company (Principal Life). The letter contains our comments on the American Academy of Actuaries' proposed update to RBC factors for bonds and other fixed income assets.

The C1 Work Group of the American Academy of Actuaries has invested a lot of time, effort, and thought into its proposal. Principal Life applauds the Academy working group for its tireless work to update the factors, and we support the proposal to expand the structure to 14 rating classes. We also recognize that a change in structure will take time and resources, and we urge the NAIC working group to fully and carefully consider its plan to move to the new system. While we generally support the Academy's proposal, we do note areas with which we have concern.

The RBC C1 factors are an extremely important component of the RBC framework. Investment RBC is among the largest pieces of RBC for life insurers. Because these factors are so important, we thank the NAIC working group for their efforts, and encourage them to continue to carefully consider all of the comments they receive. We believe it is important to take the time necessary to make sure these factors are established at an appropriate level.

## Expanded Class Structure

Principal Life supports the expanded 14-class structure for several reasons. The additional granularity provides benefits to regulators, companies, and policyholders. Those benefits include the following:

- A more granular approach better aligns incentives for companies when making investment decisions. Under an expanded structure, companies would have a greater incentive to choose among bonds based on their investment characteristics, rather than also making decisions based on the capital efficiency of the investments. In contrast, the current 6-factor system may provide incentives for companies to choose riskier bonds within a broad RBC category in order to optimize investment returns without a corresponding increase to capital requirements.
- The expanded structure better aligns with the investment risk classifications used in the market by rating agencies and investment professionals.
- The expanded structure allows for a more precise and equitable measurement of the credit risk charge assigned to bonds. A more granular structure also reduces volatility resulting from the reclassification of bonds over time, as the impacts of rating changes will be more incremental.
- A more granular approach to factors reduces the need for excessive conservatism. A more precise set of risk-based factors will reduce the need to conservatively estimate the blend of asset risks within a broader risk class. Regulators can be more certain that the appropriate risk charges have been assigned for each company, regardless of the construction of the company's bond portfolio.

In supporting the expanded structure, Principal Life recognizes that there will be a significant implementation effort involved. A robust project plan will be required, which will need to consider and coordinate the needs of regulators, companies, and other interested parties. Various items will need to be considered in planning for implementing the change, including administrative systems, vendor systems, accounting forms. Careful consideration of all of the impacts of this change, and robust testing of the changes, will be required for a successful transition.

While the one-time costs of transition will be significant, the ultimate benefits of a system that more completely captures the investment risks of insurers will provide a superior value indefinitely into the future.

### Phase-In

The new C1 factors, which would apply to all inforce assets, are expected to cause a significant increase to the capital requirements for the insurance industry. Thus, we urge the investment RBC working group to consider a three year phase-in of the new factors. This will allow companies, regulators, and other impacted parties to adjust to the new RBC standards over time. A phase in will also avoid any unintended market disruptions,

and it will also give insurers time to adjust their investment portfolios to the new RBC C1 factors.

### Areas of Concern

While we generally support the Academy working group's proposal, we also agree with those areas identified by the ACLI as areas of concern that require more attention. These are areas where the methodology has changed in important ways since prior versions of the factor calculation, with significant impacts to the resulting factors.

- **Discount Rate** – The proposal is developed using a 10-year LIBOR swap rate. In its discussion of the discount rate the Academy's working group says:

*The C1WG considered different bases for the discount rate, such as the earned rate on the capital set up to fund future losses. Use of the rate would be consistent with the concept of requiring capital on the assets backing capital. Because the bond model does not make this assumption, we did not pursue this basis for the discount rate. Note that capital is required for the assets backing the surplus of an insurance company, suggesting that the earned portfolio rate would be a more suitable basis. While true, the bond model would have been refined to model defaults on those "surplus assets." Those default losses would reduce the earned rate toward the swap rate. The extra modeling did not seem worth the refinement.*

Principal Life believes a rate higher than the 10-year LIBOR swap should be used in the factor development. As the Academy's working group notes, there is theoretical support for using a rate closer to the rate earned on insurers' portfolios of assets. Even a somewhat conservative estimate of a portfolio earned rate would be meaningfully higher than a risk-free rate. For simplicity, a constant spread could be applied to the LIBOR rate to arrive at a reasonable discount rate. Given the large impact on required capital, we believe that this assumption should be revisited and factors calculated assuming a more appropriate rate. We also question the apparent change from the last examination of these factors from a pre-tax rate to an after-tax rate. Support for such a change should be explained in the documentation for the proposal.

- **Expected level of credit loss** – In this analysis the expected level of loss is calculated as the mean expected loss. In prior analyses, the expected level has been the mean with some level of conservatism, which is more consistent with statutory reserves. By lowering the expected level, the difference between the tail measure and the expected loss grows, increasing the capital charge to bridge the gap. The capital level should consider the credit risk implicitly captured in the conservatism of statutory reserves, which is not the case in this analysis.
- **Assumptions regarding recovery** – there are several changes to the way recoveries are treated in this analysis as compared to prior analysis. These include the decision not to vary recovery rates by asset rating, and the recovery by economic state model used. These changes have a substantial impact on the factors and are not adequately addressed in the proposal.

**Conclusion**

We appreciate the work of the Academy working group to develop this update, and support the efforts of the NAIC working group to move forward to final implementation of a high-quality standard. We urge the working group to carefully consider the proposal, the implications of the new factors, and the issues being raised by all parties reviewing the exposure. We appreciate the opportunity to comment on the proposal, and are happy to discuss our comments further upon request.

Sincerely,



Michael J. Streck  
Assistant Vice-President & Corporate  
Actuary  
Principal Life Insurance Company  
Phone: (515) 247-6628  
Fax: (515) 248-2965  
Email: [Streck.Mike.J@Principal.com](mailto:Streck.Mike.J@Principal.com)



Samuel D. Early  
Actuary – Corporate  
Principal Life Insurance Company  
Phone: (515) 362-2882  
Email: [Early.Sam@Principal.com](mailto:Early.Sam@Principal.com)

CC: Edward Toy, NAIC



Property Casualty Insurers  
Association of America

Advocacy. Leadership. Results.

Stephen W. Broadie  
Vice President, Financial Policy

September 29, 2015

Ms. Elaine Wieche  
Chair, NAIC Investment Risk-Based Capital Working Group  
Connecticut Insurance Department  
153 Market Street, 7<sup>th</sup> Floor  
Hartford, CT 06103

Re: American Academy of Actuaries' "Model Construction and Development of RBC Factors for Fixed Income Securities for the NAIC's Life Risk-Based Capital Formula

Dear Ms. Wieche:

The Property Casualty Insurers Association of America (PCI) is pleased to have the opportunity to comment on the Academy's recommendations to your Working Group. PCI represents nearly 1000 insurers and reinsurers that write over one third of the U.S. property and casualty insurance market, and our members run the gamut from the largest global companies to single-state writers.

PCI recognizes that the Academy's proposal is limited to the fixed income RBC charges for life insurers. It appears clear, however, that if this proposal or a variant thereof is adopted for life insurers, it may be considered for property/casualty insurers. For this reason we have the following comments:

- Our members do not believe that it is cost-justified for the current six RBC factors to be expanded to 14 for property/casualty insurers. While some estimates indicate that the proposed revisions would have little effect on an average property/casualty portfolio, the implementation costs would likely be significant, although we cannot quantify them at this time. The American Council of Life Insurance's August 7, 2015 letter indicates some of the changes that could be necessary.
- If the Academy's approach is extended to P/C insurers, municipal bonds should receive a lower RBC charge than similarly-rated corporate bonds given their significantly better default experience. (See the 2010 NAIC SVO data reported in the ACLI letter above).
- It should not be automatically assumed that changes in life RBC asset charges should be extended to the P/C formula. As the Academy's Joint RBC Task Force noted in 2002<sup>1</sup>, there are a number of reasons why the life and P/C charges differ, including different accounting bases, different levels of significance to the industry and different risk assessment assumptions. Any changes to the P/C asset charges should be independently assessed in view of the property/casualty business model, and the decision should not be pre-judged because of decisions made with regard to other RBC formulas.

We look forward to discussing these comments with the Task Force, and if you or other members of the Task Force have any questions or comments, please contact me at your convenience,

Sincerely,

Stephen W. Broadie

<sup>1</sup> February 12, 2002 letter from the American Academy of Actuaries' Joint RBC Task Force to Lou Felice, Chair, NAIC Risk-Based Capital Task Force, "Comparison of the NAIC Life, P&C and Health RBC Formulas"