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AMERICAN ACADEMY *of* ACTUARIES

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December 6, 2011

Matti Peltonen, Chair  
NAIC C-1 Factor Review (E) Subgroup  
New York Insurance Department  
25 Beaver Street  
New York, New York 10004

Re: Working Assumptions for C1 Factor Project

Dear Chair Peltonen,

As we start this project to review/revise the C1 component of the RBC formula, the Academy's C1 Work Group<sup>1</sup> recommends having an in-depth discussion with C1 Factor Subgroup members to reinforce members understanding of the current RBC formula and the C1 component, in particular. Having this discussion should help subgroup members understand the logic that contributed to the development of aggregate RBC and the current C1 factors. Furthermore, a discussion of the major design assumptions provides a working construct for the modeling initiative associated with this new project.

Attached is an outline of the major design assumptions that frame the development of C1 factors. Please review and contact us with any questions. We would be happy to lead a discussion among subgroup members, if you think that approach would be useful.

Sincerely,

Jerry Holman, FSA, MAAA  
Co-Chair, Invested Asset Work Group  
American Academy of Actuaries

Nancy Bennett, FSA, MAAA  
Senior Life Fellow  
American Academy of Actuaries

cc: Michele Wong  
Ed Toy

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<sup>1</sup> The American Academy of Actuaries is a 17,000-member professional association whose mission is to serve the public and the U.S. actuarial profession. The Academy assists 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.

## **C1 Factor Subgroup: Working Assumptions**

1. Background on RBC Principles
  - a. The purpose of RBC is to identify weakly capitalized companies
  - b. RBC calculation is based on statutory accounting principles. RBC establishes a minimum amount of capital to be held by insurers; this minimum capital protects statutory surplus from the fluctuations that reduce statutory surplus. For the C1 component, the C1 charges protect statutory surplus from losses in statutory asset value due to bond defaults, common stock depreciation, and other changes that flow through statutory surplus.
  - c. RBC is calculated from three separate formulas (Life, Health, P&C)
    - Life RBC is post-tax; Health and P&C is pre-tax
    - Life insurers hold an AVR; P&C does not hold AVR
  - d. RBC framework is based on separate distributions for material risk components (i.e. C0 – C4 RBC components) that are aggregated to determine total capital requirements
  - e. Required capital calculation assumes a going concern
  - f. Required capital is an add-on to policy reserves under the assumption that policy reserves are adequate
  
2. What differences should be allowed between Life, Health, and P&C?
  - a. Should granularity of assets (i.e., bond classes) continue to vary between Life, Health & P&C?
  - b. Note that the carrying value for below-investment grade assets is different in P&C blank vs. Life/Health blanks
  
3. Determine/confirm if RBC calculation (and the elements of the C1 component) should be after-tax (as with LRBC) or pre-tax (as with HRBC & PCRBC).
  
4. What risks should be covered in the C1 component?
  - a. Deferral (preferred stock & hybrids)
  - b. Fair Value Depreciation
  - c. Call/Early Redemption/Prepayment
  - d. Extension
  - e. Currency
  - f. Leverage
  - g. Liquidity
  - h. Reinvestment
  - i. Event
  - j. Duration risk (i.e., the issue that a 5 year and a 30 year bond get the same C1 factor)
  
5. To what extent should correlation be reflected among the risks captured in the C1 component?

6. What time horizon should be assumed in the C1 component? That is, over what time period should C1 capital be expected to absorb risks? Should varying time frames be used for different risks?
7. What statistical metric should be used in establishing capital requirements for the C1 component (e.g., the 95<sup>th</sup> percentile)? How is the choice of a statistical safety level affected by utilizing a less precise method for analyzing risks and establishing the C1 charges?
8. Should the methodology for determining the C1 charge be based on the same economic model and assumptions for all asset types? If not, then what variations of model and/or assumptions should be considered?
9. To what degree should the interaction of assets and liabilities be reflected in C1?