AMERICAN ACADEMY of ACTUARIES

March 1, 2010

Director Christina Urias
International Solvency (EX) Working Group
Via email: kdefrain@naic.org

Dear Director Urias,

The American Academy of Actuaries'[1] Regulatory Capital Requirements Task Force is pleased to provide its responses to questions posed in the *Consultation Paper on Regulatory Capital Requirements and Overarching Accounting and Valuation Issues for the Solvency Modernization Initiative*.

The replies were prepared with input provided by actuaries from four practice councils within the Academy: Life Practice Council, Casualty Practice Council, Health Practice Council, and Risk Management and Financial Reporting Council. Please note that a few questions have been omitted in the document below if no response is provided.

We welcome questions and comments from the NAIC as it moves forward in its Solvency Modernization Initiative. If you have any questions, please contact Tina Getachew, senior policy analyst, Risk Management and Financial Reporting Council, by phone at (202) 223-8196 or email getachew@actuary.org.

Sincerely,

Thomas Herget
Chair, Regulatory Capital Requirements Task Force
Risk Management and Financial Reporting Council
American Academy of Actuaries

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[1] The American Academy of Actuaries ("Academy") is a 16,000-member professional association whose mission is to serve the public on behalf of 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.

Responses to 60 Questions

1) What is the purpose of regulatory capital requirements?	The purposes of the United States regulatory Risk-based Capital (RBC) system are to: 1) define a minimum capital level used as an early warning tool to identify weakly capitalized companies; and 2) establish solvency levels that trigger regulatory actions. In the years since RBC has been in place, other benefits have been observed, including motivating a company to avoid undesirable levels of risk (from a policyholder perspective), promoting a risk measurement and management culture within a company, and providing a tool for supervisors to assume control of a failing company.
2) What is the driver of capital levels held by companies? What determines how much capital a company actually holds (e.g., rating agencies, market, regulation, etc.)?	Most insurers look first to establish a level of capital to achieve or maintain their desired rating in addition to satisfying regulatory minimums and internal company standards. A company will use additional standards to establish a target for the level of capital held. Included in these additional standards are: 1) ease of access to external capital; 2) organic growth needs; 3) M&A plans; 4) parental guarantees; 5) support of affiliated insurers; 6) capital investment needs; 7) return on capital profit targets 8) availability of funds from parent or affiliates; 9) perceived volatility in reserves or operating results; and 10) economic capital models.
3) Do rating agencies' motivations and output differ from regulators'?	Yes. Regulators' primary concern rests with protecting the consumer and ensuring the company can meet its promises. Rating agencies are more focused on those aspects of an insurer's operations that affect its ability to satisfy its debt obligations. Both rating agencies (RAs) and regulators evaluate an insurers' solvency and ability to satisfy obligations to policyholders; however, RAs also place a value on the ongoing financial stability and future viability of an insurer to operate profitability in the future. Regulators have focused on weakly capitalized companies using uniformly calculated intervention thresholds. Such thresholds are quantitatively established. Regulators do utilize more qualitative considerations in risk-focused exams and have a confidential set of analytics used as early warning indicators. Rating agencies utilize proprietary formulas and qualitative considerations to grade individual companies on increasing levels of strength.
4) Should the US Regulatory Mission be modified to include evaluation of economic or target capital? …to include financial stability?	If the NAIC is contemplating expansion of its regulatory mission to include a review of companies' ongoing financial condition (financial stability), then the regulatory mission will be more similar to a rating agency review. In conducting a more comprehensive review of an insurer's financial condition, regulators will need to examine qualitative studies, such as economic capital. The effective evaluation of economic capital would require an extensive commitment of industry and regulatory resources. Financial stability would also be evaluated by analyzing the quality of capital, strength of earnings, liquidity position, franchise value and many other elements. While economic capital models might be a useful tool in evaluating financial stability, they should not be required as a basis for

	regulatory capital. Nevertheless, many life insurers' products have become so complex that a formulaic approach is becoming insufficient for assessing capital needs so a more complex approach is required.
5) What is a "total balance sheet" approach? How should that approach impact U.S. regulatory requirements?	A total balance sheet approach looks at the risks encompassed by the assets and liabilities, regardless of how they may be accounted for. Given the risks of the underlying assets and liabilities, the total level of assets necessary to support those risks is determined, with the required capital being the remainder after application of accounting rules for determining book assets and liabilities. Capital requirements are measured with direct recognition of the interaction of its assets and liabilities and how its risk profile changes as economic conditions change. Capital requirements are also based on the covariance of risks that affect asset and liability cash flows. An important characteristic of any accounting framework in this approach is that increasing or decreasing a liability measurement is generally offset by a change in the opposite direction of the required capital. In this way, the Total Balance Sheet approach recognizes the possible relative conservatism of reserves in an amortized cost framework. Frameworks based on market or fair values can also be considered for a Total Balance Sheet approach.
6) What is the capital level at which companies cannot operate in the market? At what level of capital should regulators become concerned (PCR)? At what level of capital should regulators take over (MCR)? Compared to these levels, at what level is the U.S. solvency system (which includes conservative accounting and RBC)?	We support a hierarchy of trigger points at which regulatory actions become progressively more intrusive. The current hierarchy of RBC trigger points, together with the proposed stress tests and analysis of RBC trends, constitute an ascending level of assertiveness in regulatory actions. It is difficult, however, to state a precise level at which to become concerned. Among the influences would be the cause of a decline, how quickly it can be reversed and whether it's an industry-wide problem or a more limited one. The decision to take over a company should be based on the level of free capital, liquidity position, and its capacity to alter its risk profile. In addition, the decision to take over the company versus to supervise more closely will be influenced by an insurer's business plans and anticipated profitability and ongoing viability.
7) What mechanism should be used to determine solvency action and control levels? Are the multipliers that are currently used to define the solvency control levels appropriate?	The solvency mechanism is dependent on the purpose of regulatory capital and the role of US regulators in evaluating financial stability. A factor-based approach may be acceptable for insurers with simpler products and straightforward assets. For insurers with more complex products and investments, scenario analysis will be needed to determine statutory solvency. In any case, the trigger points to determine action should have an underlying actuarial and statistical foundation.
8) How should the U.S. define its RBC levels using statistical safety level and time horizon definitions? What is the appropriate risk measure?	The choice of a risk measure and time horizon depends on the purpose of regulatory capital. The chosen time horizon should allow sufficient capital to accommodate new sales and risks. There should be enough cushion to absorb a shock and still pay promises. While the calculations are performed for the lifetime of contracts, the chosen time frame for analysis varies by company

	and product. The US RBC formulae do not use a consistent measure (combination of statistical safety level and time horizon) for developing each RBC factor for liabilities between Life/Health and P&C while the same factors are generally used for assets.
9) Does economic (or target) capital evaluation have a role in the U.S. solvency framework? If so, what? Should a company's own economic evaluation relate to regulatory requirements? Should a company's own economic evaluation impact RBC or be considered outside of RBC?	If the US regulatory objective is expanded to include a financial stability focus, an economic capital model could be useful in establishing minimum solvency amounts. A company's goal for economic capital level will not be the same as the existing regulatory requirement since the company would not want to operate at the minimum requirement. Because economic capital measures desirable, not minimum capital, this internal model should be considered where areas of risk are not reflected in the formula. Any economic capital or other internal model application should be considered in addition to existing formula-based RBC requirements.
10) Are the factors included in the RBC still appropriate?	The factors, categories and methodologies in the RBC formulas need constant review for relevance and timeliness. The current RBC formula excludes many risks; the individual risk components (as well as the total components) are based on a specific risk tolerance based on historical experience. Many of the existing RBC factors, particularly related to the risk of default, have not been updated in some time. It would be especially valuable to examine those factors where results in the tail of the outcome distributions have changed.
11) Are there areas of the RBC formula that should be modified in the approach (example: more categories of assets, treating assets more granularly, more stochastic analysis)?	RBC should be modified if major risks are not being measured properly. Several Academy groups have provided input on this subject to the NAIC recently. The Academy's P&C RBC Committee's October 2009 report on P&C RBC and the recent financial crisis may be found at http://www.actuary.org/pdf/casualty/rbc_oct09.pdf. The Life Capital Adequacy Subcommittee and the Health Practice Council's Solvency Work Group have also provided input to the NAIC.
12) What is the appropriate methodology to consider interdependencies among risks (e.g., diversification)? Is the square-root covariance adjustment appropriate?	In the framework of a capital determination model, we expect that there will be differing sophistication in methods for determining interdependencies among risks, as is suitable for the insurer and the situation. The most sophisticated methods would implement correlation between risks by allowing all systemic forces, such as economic (e.g., inflation) or operational factors (e.g., changes in claims handling), to affect all sources of cash flow (loss, expense, etc) in realistic ways. A less complex alternative would be to use correlation matrices between risks to induce correlation between the results. The US RBC formulae give either 100% or 0% correlation credit; the formulae in other countries (e.g., EU) have adopted tables giving greater flexibility. It seems that the square root approach could be made "suitable in most instances" if it were not applied to 100% of the RBC for each risk. These methods are illustrative of what an insurer could do – we are not formally proposing these methods as candidates for adoption at this time as there may be other methods that could be used.
13) What risks should be	For formulaic RBC, the risks from natural catastrophe and

added or excluded in the RBC calculation?	terrorism are not a current component of the P&C formula and might be needed there. Where internal models are employed, it is up to the actuary to ensure that all material risks have been reflected.
14) For each missing risk, should the risk be treated quantitatively or qualitatively? Should some risks be accounted for quantitatively but with a judgmental factor (e.g., 10% for unidentified operational risks)?	We realize it isn't possible to identify and include all possible risks. The risks addressed should be assessed both qualitatively and quantitatively. Those risks that are difficult to quantify, such as operational risk and systemic risk, will necessarily rely on more qualitative assessment than quantitative assessment. As future research into these risks evolves, we expect that their assessment will involve more quantitative elements. For now, and in certain situations, a purely judgmental application of a factor may be appropriate, but we should encourage best practices in this regard. Use of judgment should not result in overly optimistic or conservative results.
15) How should risk mitigation (e.g., reinsurance, hedging) be treated in the determination of capital requirements?	Risk mitigation practices whose effectiveness can be demonstrated should be directly reflected in the determination of required capital. However, accomplishing this introduces analytical challenges (such as collectability of reinsurance or efficacy of intended hedge strategies) into the evaluation process. The risk-focused financial examination process should recognize risks that the current RBC formulae may not adequately address.
16) Should there be off-balance-sheet items? If so, how should off-balance sheet items be considered in the solvency system?	Every material source of expense and revenue that a company might incur or realize needs to be considered in its solvency evaluation. Any item that could affect an insurer's solvency should be included in the capital adequacy framework.
17) Should internal models be allowed to determine capital requirements?	Yes, there is a role for internal models in the determination of capital requirements. Certain guaranteed benefits and investments can only be evaluated by using a model. Use of internal models for RBC in some areas has already been adopted by the NAIC. The use of internal models might slow down the process of taking over a failing company. Internal models need to be subject to actuarial standards of practice, controls and validation criteria.
18) Should partial modeling allowing company discretion be utilized in the RBC? If so, how?	Use of internal models for partial components of RBC has already been adopted by the NAIC such as for C-3 Phase 2 Market Risk. Certain guaranteed benefits and investments can only be evaluated by using an internal model. Internal models need to be subject to actuarial standards of practice, controls and validation criteria. Comprehensive instructions would help assure consistent application.
19) When modeling is used for capital requirement purposes, what safeguards should be considered to the modeling? What requirements should be established with modeling?	A set of principles and standards should be used to assess the overall correctness, extent, and level of controls for a company's use of an internal capital model. There have been several white papers published by the IAIS and CEIOPS for Solvency II, Lloyd's for their ICA and other regulators such as the Bermuda Monetary Authority on establishing standards and requirements, as well as an internal model practice note soon to be released by the IAA. Some categories for establishing standards would typically be: the company's own use of the model, the statistical techniques

	and mathematical theory, results calibration & validation, governance & controls and documentation. In addition, a requirement to audit the modeling that affects required capital would provide a much needed safeguard. Actuarial standards of practice must be established to ensure the integrity of a capital framework that includes internal models.
20) Which particular risks are more appropriately reflected by modeling? Which risks are effectively measured without extensive modeling, (e.g., risks where factor determination is credible and sufficient, non-material risks)?	Macro-type risks affecting the overall company and their interactions (correlations) are best reflected by modeling. Examples may include risks such as global economic scenarios, natural catastrophes, man-made catastrophes (e.g., terrorism), fluctuations in interest rates or the stock/bond market, policyholder behavior, management behavior, legal and/or social developments affecting entire industries or categories of business. Once the main risks for a company have been identified, relationships and dependencies can be established and the interactions can be represented and studied with modeling. Some examples of risks that could be handled without extensive modeling might be: reinsurance credit risk (assuming the reinsurers have been evaluated in the same manner as the cedants) where capital charges could be based on credit ratings; agents balances; non-admitted or off balance sheet risks (e.g., long-term leases); and operational risks (human resources, disaster recovery, litigation, etc.).
21) Should the MCR be influenced by an internal model?	For some insurers, a minimum capital requirement can be determined by formula and not influenced by internal models. For insurers with complex products, an internal model may need to be a component of MCR, as it currently is for life insurers. If a company is approaching MCR, regulators may require use of additional external tests and actuarial projections. An MCR test needs to be very objective since it leads to severe actions.
22) With implementation of internal models, does the use of a specified safety level and time horizon become imperative?	Yes. If internal models are used, specified safety levels should be set and be consistent across all states. A time horizon would be necessary as in reality companies have time to react to changes in capital requirements and manage their business. Differences by line of business should be considered (e.g., catastrophe exposed property vs. auto liability). Some commonly used metrics are a 1-year time horizon and 99.5% VAR or 99.0% TVAR and there are other possibilities.
23) Even with limited use of modeling in the current RBC, should that modeling be subject to prior approval by the regulators? What should be designated and/or approved (e.g., the approach — 1,000 scenarios — and key considerations or parameters)?	The models are available for review by state regulators. However, given the number and training of regulators, and the wide range of company relationships (groups of single-state companies to national companies), it is not practical today to prior-approve models. Further, the credibility of the model can best be demonstrated through the evaluation of specified stress testing. There are three ways to approach this approval process, each with their own pros and cons: 1. Allow company discretion, but mandate assumptions and margins and standard scenarios as buffers or elements of conservatism to cover model risk;

	2. Require prior approval of the process used to validate and maintain the model, along with continued reporting as it is used; or 3. Allow regulators to mandate company specific assumptions. Another possibility is a requirement that a company's capital model get a formal actuarial opinion from an approved list of third-party actuarial firms or from a qualified actuary. These formal actuarial opinions could then be reviewed by the regulator for final approval. Once approved, there should be reciprocity among states. The approval should focus on assessing the modeling approach, key parameters and structure, and then determining if this is appropriate for the business.
24) What regulatory expertise is needed for model review? How should regulatory review of models be funded? For regulatory review of internal models, should there be a centralized review function?	Regulators would need to have actuarial or quantitative expertise in risk and capital modeling. A model review will require the expertise of actuaries trained in the design, maintenance, and analysis of company risk models. This expertise in risk models (including both specific and aggregate risks) is the needed foundation for a feedback loop-based oversight process that will allow speedier and more effective modifications or adjustments when the unexpected occurs. In addition, there could be a centralized review function to ensure consistency in approach and to help build a center of expertise in model assessment for the regulator. Reviews could be funded by the party seeking approval (i.e., a third party vendor or the individual company). Regulatory approval via centralization should follow the process of current statutory financial examination and not require each individual state to separately review and approve the model. We realize that states may wish to retain this actuarial and quantitative responsibility for themselves
25) What are the "level playing field" implications? What is the impact on small firms? How would a dual system of allowing internal model calculations by some firms impact the competitive marketplace?	RBC should be based on the risks created by the strategies being executed by a company, regardless of the company's size. The "level playing field" or market is usually more concerned with the actual level of capital being held which is typically much higher than regulatory capital. Certain benefits (for example, living benefits on a variable annuity) and certain investments can only be valued using a model, so if a company, regardless of size, offers the benefit or makes the investment, they must use a model to determine their value. If regulators do grant exemptions, those exemptions should be risk-based.
27) Should capital add-ons be considered in the RBC? Is this a concept that would apply at the MCR level as well as the PCR level?	Capital add-ons should result from application of internal models or from the result of a risk-based examination that demonstrates the need for additional capital.

28) What should trigger capital add-ons?	A capital add-on should be considered where the current RBC methodology doesn't adequately assess the risk.
30) What changes should be made to RBC exclusions?	Any line of business appearing on an insurer's blank or any business under the jurisdiction of the states' insurance commissioner should be subject to an RBC approach.
31) If the U.S. solvency regime is expanded to explore economic capital, what exclusions should be made to those requirements, recognizing that those might be different from RBC exclusions?	There are no risk-based or actuarial justifications for exclusions. Exclusions are granted by regulators for various reasons.
32) What capital requirements should be employed for insurance entities currently excluded from RBC?	RBC requirements should be established uniformly by a single authority and reviewed periodically. This approach will ensure that capital standards are consistent across states.
33) What proportionality considerations should be given in the U.S.?	Capital standards should be established and monitored in proportion to the risk exposures of an individual company, regardless of size. The riskiness of the activity should drive capital requirements.
34) Is there a need to obtain uniformity in the minimum capital and surplus requirements by state? Should the NAIC recommend a best practice of minimum requirements?	All companies operating in the United States should follow a single set of standards for minimum capital determination. The NAIC RBC Model Law has been adopted by all states for Life and P&C (and by many for Health). Permitted practices by state to admit certain items into capital should not be allowed. Uniformity is essential for a level playing field. Further, to the extent that a total balance sheet approach is incorporated into future solvency standards in the US, the establishment of minimum reserves and capital is intertwined. Uniformity in reserve and capital standards across all states is essential. There is no risk-based justification to differentiate standards by state. The review of models is fundamentally a review of underlying risks. The regulator needs a comprehensive process to ensure that the company is measuring and validating its assessment of risks. A central review body can best coordinate and provide best practices for regulators to use. If internal models are used, we believe that full disclosure is a key feature.
35) What stress tests should be performed by the NAIC?	Companies themselves should perform all tests, including stress tests, since the NAIC will not typically have the information that would be needed to do them.
36) What stress tests and reverse stress tests should be performed by companies? What should be required to be reported to the regulator?	Time will be needed to study and describe the best approach to itemizing the breadth and depth of stress testing. We desire to work with the NAIC in this area. Currently, regulation does require some stress testing. In asset adequacy testing for reserves, many companies use a form of stress test known as the 'New York 7' scenarios. Additionally, one possibility is to stress test the key

	assumptions based on the company's own analysis of its risks.
37) Should the regulator specify stress test scenarios to run? If so, which ones? How often should they be done?	The regulator should specify a minimum set of stress tests only. Again, time will be needed to address this and the we wishe to work with the NAIC on this initiative.
38) Should the RBC calculation be publicly available?	Yes. Publicly available RBC results would provide needed transparency and enhance consistency, fairness, and acceptance.
39) If internal models are allowed for capital requirement purposes, should information be publicly available?	Yes, but only in a way that ensures that a company's proprietary methods, assumptions, systems, intellectual capital or competitive advantage are not compromised. Use of recognized capital models from third-party vendors would minimize many of these objections. Alternatively, perhaps a required disclosure of management's reasons for their internal model producing differing indications than RBC could be used in lieu of public disclosure of an internal capital model.
40) Should the valuation of all assets, liabilities, and capital resources for regulatory capital purposes be completed on a market-consistent or some other basis?	Any accounting basis selected for regulatory capital will have its weaknesses (as well as strengths). A concern about a market-consistent method is that it is not a codified accounting method. There is no authoritative source for its definition and maintenance, though it is being actively worked on and evaluated. While evolution of any accounting basis is desirable, there needs to be a mechanism to approve and circulate the establishment and review of methods and assumptions. While market-consistent liability valuations showed large volatility at year-end 2008 in the European MCEV work, the drivers of that volatility are being reviewed and analyzed.
41) Should the SMI wait for FASB and IASB to determine valuation requirements for public financial reporting prior to determining valuation for regulatory solvency purposes?	Yes. The IASB appears to be on track for a June 2011 standard. And, although it is not as easy to discern that the FASB is as well, they are running on the same track. While many issues remain to be resolved, several features of liability determination could be appealing for solvency analysis. These include: a) a best estimate liability based on many scenarios; b) a risk margin liability that would address variability in the best estimate; and c) a residual margin which would be an indicator of how much future profitability could exist within the current portfolio of business. The NAIC should assess how other countries adapt to the IASB's final standard as well as evaluating the facets of Solvency II. If feasible, it would be valuable if companies needed to produce a single, rather than two or three, sets of financial statements.
42) Should valuation differ between public financial reporting (GAAP) and supervisory financial reporting (SAP)?	Valuation does not have to differ between GAAP and SAP; Canada has had a single standard for many years. Even if a GAAP accounting system produces a more income statement - oriented approach, its resulting balance sheet could be modified for a sharper view of solvency. Any alternative accounting system used for solvency will

	need to have adjustments made in order to be suitable for solvency purposes. A major argument for a single accounting system is that under a total balance sheet approach the reserves do not really matter since they are just subtracted from the total assets needed to produce the capital. Several desirable attributes of an accounting system most suitable for solvency measurement would include: a) liabilities determined on a single model; b) a uniform degree of conservatism (or even no conservatism) in all liabilities; c) a discount rate that reflects what assets are likely to earn; d) consistency between discount rates used for liabilities and assets; e) loss recognition / asset adequacy analysis; and f) a single view of amortized cost / current values for both assets and liabilities, as well as for all liability calculations. Insurer policy provisions, investment quality, and management practices will have far more impact on insurer solvency than the valuation basis selected to measure it. The amount of total assets needed to assure solvency is not dependent on the methods used to calculate liabilities. A total asset methodology should be independent of how much reserve is held, within some broad limit such that there isn't such a small capital requirement and high reserve requirement that companies routinely violate the equity requirement. This discussion is not, however, an endorsement of the use of GAAP for statutory accounting purposes; there are many considerations that need evaluation before such a step is taken.
43) How should procyclicality be addressed? What counter-cyclical adjustments should be made?	While procyclicality is a concern in difficult times, it's not clear to us that there is a complete solution. The reality is that even in bad times, things can get even worse. If the stock market has declined 20% for the past two years, it doesn't mean it can't decline 20% again. It is important that the solvency requirements be met in all times, good or bad. Requirements should not be relaxed when times are bad. The issue may be best addressed by an internal model based on the risks faced by a company, where those risks are dynamically reflected in the methodology.
45) For group capital assessment, what should the definition of a group be?	A group is the top level of the corporate structure, and all subsidiaries thereof, that the regulator has authority over.
46) What are the benefits of group capital assessment? Drawbacks?	The key benefit for group capital assessment is to provide a comprehensive view of all capital requirements under different jurisdictions and the overall capital resources available to meet the requirement. Benefits also include access to a larger pool of resources, access to corporate expertise in risk management and an understanding of how the total corporate risks interact with each other. The major drawback is that the promises to the insured are made by a specific legal entity in the group and survival of

	that specific entity is necessary to assure fulfillment of that promise. It may be difficult if not impossible to impose a transfer of capital from one affiliate to another. Further, it may be problematic to measure it if it includes non-insurance and non-financial affiliates.
48) Should consolidated financial statements be required?	While this could be useful, if there is no access to an affiliate's capital, a consolidation for solvency management purposes might be misleading. Existing combined statements are valuable and should be retained. Consolidation with non-insurance entities that a regulator has no authority over may nevertheless produce indications of solvency issues.
49) What methodologies of calculation should be considered (e.g., consolidation vs. aggregation)?	Both consolidation and aggregation have merit; both provide information useful for the company. However, the aggregation approach normally yields a more conservative measure of a company’s capital position.
50) How should unregulated entities and non-insurance entities be considered? Do insurance regulators have the expertise to determine the risks of non-insurance entities?	The parent organization should understand the risks associated with each of its entities. The parent organization should demonstrate controls for the risks taken in each entity. Insurance regulators typically don’t have the expertise and resources to determine or evaluate the risk of non-insurance entities. Insurance regulators usually lack jurisdiction over non-insurance entities, except to the extent that state laws give them some jurisdiction over holding company activities.
51) Should diversification credits be applied at the group level?	It is good to review risks comprehensively at the group level; diversification credits could be considered. this needs to be tempered by the fact that there are walls preventing transfer of capital. If the regulator has no authority over the entire group, then capital needs for the entire group is an academic exercise with little relevance to the regulator. If calculated for the portion of the group that the regulator has authority over, then diversification credits within that portion of the group could make sense.
52) Should group support be implemented? If so, how would fungibility issues be addressed?	The benefit of a group viewpoint is that its report could outline support to the subsidiaries and the resulting impact to the group.
53) Should the NAIC consider an approach to group-wide capital requirements that span international jurisdictions?	It would be appropriate for the NAIC (states) to be a part of any Supervisory Colleges that address entire groups where significant parts are US insurance entities.
54) What considerations should be made regarding regulatory arbitrage?	Regulatory arbitrage should be avoided. To the extent possible, the NAIC should make it clear to all states that a common regulatory requirement is essential to customers having confidence in the system. So far, US regulators have been somewhat successful in achieving this; nevertheless, states with weaker regulation, weaker enforcement or deviating permitted practices should be identified and urged to bring their processes up to par.

	Disclosure of differences permitted by a state is useful information and facilitates comparability. One area of regulatory arbitrage that needs to be avoided is the situation that would enable a company to hold insufficient assets in support of the risks that it is assuming. The NAIC has in the past adopted collateral requirements for reserve credits to insure that risks are properly reserved for, but has not extended these collateral requirements to ensuring that the capital backing the guarantees on products written to US consumers is adequate. The NAIC should seek to ensure that regulatory arbitrage does not allow a company to have inadequate resources to support its obligations where resources consist of both reserves and capital. It has been argued that regulatory arbitrage occasionally has served as a market mechanism for avoiding regulatory actions that are uneconomic or too conservative.
55) Should the U.S. insurance solvency system be adjusted for systemic risk regulation? If so, how?	All significant risks need to be considered in capital adequacy determination. An internal model, as well as stress testing, should be reflective of those risks that are considered systemic.
56) Should wind-down plans be incorporated? If so, how?	A risk-based exam could review each company's plan to deal with shocks. One such shock could be the winding down of a part or the entire operation. For companies well above MCR, such an exercise may not be cost-justified.
57) What further studies regarding capital requirements should be performed and who should perform the studies?	The Academy, in working with the CAS and SOA where appropriate, will facilitate such studies and research. Several suggestions for such studies are mentioned in previous responses.
58) Should quantitative impact studies be performed in SMI?	Yes. Field testing is a good way to determine if an approach achieves its objective and identifies practical difficulties in implementation.
59) Should SMI revisions be phased in?	SMI revisions should be phased in. Companies, large and small, need time to implement and test their models. Companies, large and small, need time for an orderly transition of investments if needed. The accreditation approach supporting adoption of NAIC regulations should provide this needed time.
60) What additional capital requirement or overarching accounting/valuation issues should be considered in the SMI?	While the NAIC's paper addresses a number of important foundational issues we recommend the Solvency Modernization Initiative Task Force undertake a broader consideration of the role of the regulator in a modernized solvency framework. Many of the concepts and solvency frameworks under discussion by the SMI Task Force may represent a paradigm shift in the role of some regulators in monitoring the financial condition of life insurers. A flexible regulatory process is needed that can respond quickly to emerging risks in order to maintain the integrity of the regulatory oversight process. The American Academy of Actuaries' Life Practice

	Council (LPC) has, as a foundation of its principle-based reserve and capital initiatives, supported an expansion of the US life regulatory mission to include a comprehensive understanding of the significant risk drivers of a life insurer's financial condition. This principle-based approach utilizes internal models and company experience and captures all material risks, as essential for calculating capital requirements for certain risks associated with life insurance. While RBC has been the basis for establishing regulatory intervention for taking over a single troubled life insurance company, understanding the significant long term risk drivers associated with life insurance and techniques for managing risks will be of significant value in assessing the health of individual companies and the industry itself as abnormal or uncommon risk events occur. The LPC has supported a comprehensive review of the US Life RBC Framework as part of a principle-based approach to the determination of reserves and capital. As noted above, over time, several modifications have been made to the Life RBC formula, with the changes becoming increasingly complex and less effective. This evolutionary approach to modifying the Life RBC formula has still left a patchwork of methods for measuring risk, resulting in, sometimes, internally inconsistent methods and overlapping or missing risks. Life insurance products and investments have become too complex to have their risks captured by simple factors alone. Part of the SMI process, therefore, should include making use of the research that has taken place in the development of and continued work on a principle-based approach to Life RBC. As space is limited to present material in this document, we strongly urge that a separate presentation be arranged at the next meeting of the SMI Task Force at which the Academy's Life Practice Council may present the principles that have been involved in their recent work on modernizing RBC. Additional issues the NAIC could consider as it modernizes its solvency framework include: a. Cost to industry to implement; b. Need for additional tools and regulators trained in risk management; c. Possible consistency with international solvency standards; d. Coordination of SMI project within the NAIC and with professional groups and industry stakeholders; and e. Timing of solvency modernization with IAIS efforts to coalesce into a single basis for a solvency and general purpose accounting framework.