AMERICAN ACADEMY *of* ACTUARIES

August 23, 2007

International Association of Insurance Supervisors
Via email to: Chair, Rob Curtis (rob.curtis@fsa.gov.uk)
CC: karen.doran@bis.org

RE: American Academy of Actuaries' comments on the IAIS *Capital Requirements, Enterprise Risk Management for Capital and Solvency Purposes, and the Use of Internal Models by Insurers*

To the International Association of Insurance Supervisors:

The American Academy of Actuaries[1] Risk Management and Solvency Committee has completed a review of the IAIS *Capital Requirements, Enterprise Risk Management for Capital and Solvency Purposes, and the Use of Internal Models by Insurers* papers and has prepared the attached comments. Below are our main concerns for each paper.

Use of Internal Models by Insurers
We are supportive of the use of Internal Models but only with the proper understanding of their purpose and of their limitations. Internal modeling requires management to engage in thoughtful, quantified analysis of the risk factors it faces. That can only be a positive. However, perhaps too much is represented in the Internal Models paper. One of the mistakes in the paper is a statement that Internal Models can be used to identify a company's risk factors. Models do not identify risk factors; they quantify and integrate them, and then present the financial condition resulting from them.

Capital Requirements
One of the critical components of any capital requirement resides with an appropriate time horizon. While time horizons are mentioned in the paper, there is little practical discussion of the critical nature that time horizons play in the measurement of "appropriate" capital requirements.

Under any capital structure model, there must be a continuum of capital modeling approaches – e.g., operational risks may be best met by a standardized approach; for other risks, internal models may be more realistic. Evaluation of "risks" under the Total Balance Sheet approach may not lead to a single all-encompassing internal model. Instead, it may be more realistic to assume a continuum of modeling approaches involving some combination of Standardized and Internal modeling.

[1] The American Academy of Actuaries is a national organization formed in 1965 to bring together, in a single entity, actuaries of all specializations within the United States. A major purpose of the Academy is to act as a public information organization for the profession. Academy committees, task forces and work groups regularly prepare testimony and provide information to Congress and senior federal policy-makers, comment on proposed federal and state regulations, and work closely with the National Association of Insurance Commissioners and state officials on issues related to insurance, pensions and other forms of risk financing. The Academy establishes qualification standards for the actuarial profession in the United States and supports two independent boards. The Actuarial Standards Board promulgates standards of practice for the profession, and the Actuarial Board for Counseling and Discipline helps to ensure high standards of professional conduct are met. The Academy also supports the Joint Committee for the Code of Professional Conduct, which develops standards of conduct for the U.S. actuarial profession.

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The question consistently debated in our discussions is the practical development of modeling conditions, constraints and regulatory requirements for the determination of the appropriate risk margins required for “Technical” Reserves. The day-to-day practicality of such risk margin calculations are far from clear at this time.

Enterprise Risk Management for Capital and Solvency Purposes:
We believe that the focus of the paper should be on the risks retained by the insurer, not the total risks. Additionally, the ERM framework is not dependent on the complexity of the business but rather of the business’ risks. We also feel that the paper should clarify that internal models are appropriate for part or all of the company’s business. Our final major concern is that diversification is usable only if it is available in the tails.

These overriding concerns are reflective in our attached comments.

The Risk Management and Solvency Committee appreciates the opportunity to review this paper and provide comments to the IAIS. It is our hope that the IAIS will incorporate the changes we have submitted for this draft. Should you have any questions or need further information on our comments, please feel free to contact us through Tina Getachew at getachew@actuary.org or at (202) 223-8196.

Sincerely,

James E. Rech
Chairperson,
Risk Management and Solvency Committee
American Academy of Actuaries

Member and Observer Comments on IAIS Draft Paper
Draft Guidance paper on the use of internal models by insurers
(Comments due by 30 August 2007)

Name	**Paragraph Reference**	**Comment**[1]	**Resolution**
American Academy of Actuaries	18	Suggest inserting" where appropriate" "The IAIS encourages the use of internal models 'where appropriate,' as a more realistic, risk-responsive method of calculating capital requirements, and so supervisors should discourage any 'cherry-picking' practices by insurers."	
American Academy of Actuaries	23	Suggest replacing "identify" with "…an internal model used in this context, should 'reflect' all reasonably foreseeable…"	
American Academy of Actuaries	27	Suggest changing the last sentence to read "… the internal model sits within a cycle of risk and capital management, and may provide the link between these two processes.	
American Academy of Actuaries	55	Suggest inserting "…internal model approach for calculating 'all or parts of its' regulatory capital requirements…"	
American Academy of Actuaries	Key Feature 2, Paragraphs 24, 25 Editorial	"Insurers' risk tolerance" should be "Policyholders' risk tolerance" because public (supervisory perspective) tolerance should govern this.	
American Academy of Actuaries	Editorial/General	Value depends on the reliability of the results that are only as good as the assumptions, et al.	
American Academy of Actuaries	Editorial/General	A set of risks may be foreseeable but not necessarily quantifiable (e.g., legal, legislative, and political risks such as legislative reform)	
American Academy of Actuaries	Editorial/General	There is limited knowledge of the most extreme events, those at the farthest end of the statistical distribution. Therefore, measuring capital at those levels is fraught with a very high degree of imprecision.	
American Academy of Actuaries	General	Management can develop and use internal models to better establish more meaningful capital standards than the standard models a supervisor may require. The supervisor should consider that internal models may be superior in establishing capital levels that are specific to the company's risk profile.	

[1] Please provide comments of a more critical nature on scope and content, together with alternate drafting suggestions

		We are supportive of the use of internal models but only with the proper understanding of their purpose and of their limitations.	
American Academy of Actuaries	General	Internal modelling requires management to engage in thoughtful, quantified analysis of the risk factors it faces. That can only be a positive. In a given jurisdiction a supervisor might be able, through evaluating many internal models, to gather a broader understanding of what factors require the most oversight and intervention. On this basis, internal models would appear to have some useful role in the supervision of insurance companies.	
American Academy of Actuaries	General	Perhaps there is overrepresentation of Internal Models in the paper. One of the mistakes the paper makes is in its premise that internal models can be used to identify a company's risk factors. Models don't identify risk factors; they quantify and integrate them, and then present the financial condition resulting from them. The idea of internal models as a "main source for decision-making" is an aggressive and, perhaps, inappropriate goal. Models should not run businesses, nor should they be the sole drivers of decisions. A model which offers management a basis for making tactical decisions implies a level of precision which is not easy to create and in many cases impossible to achieve. Models, instead, should provide quantifiable basis to guide management's trained judgment. Similar to estimates in loss reserving, capital standards produced by models will possess a high degree of uncertainty where a broad range of reasonable results may exist. A reasonable capital standard may be several multiples of another reasonable standard. A more reasonable goal for internal models may be as an insight mechanism or a strategic planning tool. A good example of the effective use of internal models is the evaluation of probabilities of survival of an entity over a defined period of time. Supervisors will need much more in the way of professional education in order to evaluate the results of internal models. Many of these models feature very sophisticated technical functions. Perhaps the most important driver of capital models is the underlying variability and dependency assumptions. Today little is known about the variability of loss ratios or loss reserves in the P&C industry, let alone the correlations among lines. Validating a model is difficult for many P&C insurers. Using their own data requires the observation of a steady and lengthy timeframe of experience, which few companies can present. On the other hand, using external data is fraught with comparability issues.	

Member and Observer Comments on IAIS Draft Paper
Draft Guidance paper on enterprise risk management for capital and solvency purposes
(Comments due by 30 August 2007)

Name	**Paragraph reference**	**Comment**[1]	**Resolution**
American Academy of Actuaries	6	Suggest inserting, "The ultimate aim of insurance is to create and protect value for policyholders and capital providers, is manage risk so as to mitigate adverse financial consequences on individuals and businesses." This captures what we believe is a more accurate description of what the aim of insurance really is.	
American Academy of Actuaries	9	In the sentence, "…separately identified function assuming a much greater role in the majority of insurers' everyday business practices." Suggest deleting "the majority of." Unsure if this is true.	
American Academy of Actuaries	9	Suggest inserting "…to provide satisfactory methods for measuring and managing retained risks."	
American Academy of Actuaries	9	Suggest inserting, "…to optimize returns on capital to insurance companies. " Editorial change for accuracy.	
American Academy of Actuaries	Key Feature 1	Suggest inserting from Key Feature 4,"The ERM framework should incorporate a feedback loop, based on appropriate and good quality information, which enable the insurer to take the necessary action in a timely manner in response to changes that were not anticipated."	
American Academy of Actuaries	13-15	Boards establish oversight over processes, they do not establish processes; they establish policies.	
American Academy of Actuaries	16	Suggest replacing "…monitoring policies so that all major risks are identified…" with "…monitoring policies so that all reasonably foreseeable and relevant material risks are identified…."	
American Academy of Actuaries	16	Suggest inserting from paragraph 33 "Within the ERM framework there should also be a "feedback loop". This should ensure that changes not anticipated are made and incorporated into the framework. The "feedback loop" is the process of keeping the ERM framework relevant reflecting changes that were not reflected or anticipated in the current framework. See also Key Feature #4 for required other periodic updating reflecting changes in risk strategy, etc.	
American	17	Suggest revision "…so that monitoring systems are able to	

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Academy of Actuaries		evolve for its business risks…" It is the risk of the business: not the business itself.	
American Academy of Actuaries	18	Suggest inserting, "conflicts that remain are effectively managed, where possible."	
American Academy of Actuaries	18	Suggest inserting, "…a separation of those managing the risks retained from…" As this is key to the process.	
American Academy of Actuaries	20	Suggest inserting, "After identification of relevant risks retained…"	
American Academy of Actuaries	24	Suggest inserting in the last sentence, "…more complex insurers to make use of such models where appropriate for parts of or all of its business." As noted later in this paper, modelling may be done for all or parts of the business where the risks suggest that it would be appropriate to do so.	
American Academy of Actuaries	27	Suggest inserting, "…dependent on the nature, scale and complexity of the risks retained by the insurer." It is not the complexity of the business but rather of the business' risks.	
American Academy of Actuaries	Footnote 14	Suggest inserting, "…strategy and the nature, scale, available financial resources, and complexity of its business risks.	
American Academy of Actuaries	Key Feature 4	The paper should separately discuss the need to continually update the ERM process for regular changes in business position, practices and exposures, versus the need to test the ERM process utilized against recent tail events. The former deals with regular maintenance to keep the methods, models, practices and procedures up-to-date, such as reflecting new acquisitions, new investment positions, the latest policy writings, the latest views on market volatility, etc. The latter deals with the post-event evaluation after major catastrophes or shocks in the environment, to be sure that the ERM approach was aware of and considered such risks appropriately (such as, for example whether a company considered the possibility of levee failures in New Orleans and the implications thereof).	
American Academy of Actuaries	Key Feature 4	Suggest replacing the second sentence with "This would incorporate both possible recalibration, as new information becomes available and the environment evolves (affecting the nature and size of underlying risks), and a continual updating process for changes in the company (such as, changes in risk management policy, tolerance limits, risk mitigating actions, and company organizational structure.)" As previously stated in reference to paragraph 16, this would also require changing paragraph 33 to reflect these changes.	
American Academy of Actuaries	Key Feature 4	Suggest eliminating the "feedback loop" language and replacing it with continual updating loop.	

American Academy of Actuaries	32	Suggest deleting "….and the interests and reasonable expectations of policyholders and other stakeholders."	
American Academy of Actuaries	Key Feature 5	Also see Key Feature #6. This relationship works both ways--capital or financial resources also set risk retention policy.	
American Academy of Actuaries	Key Feature 5	Suggest inserting in the last sentence "…quality of financial resources available and/or needed."	
American Academy of Actuaries	Key Feature 6	It might be clearer if you insert the suggested change "… consideration of its economic capital, regulatory capital requirements, and its financial resources."	
American Academy of Actuaries	Key feature 8	Suggest inserting, "nature, scale and complexity of the insurer's business structure and its risks."	
American Academy of Actuaries	44	Suggest inserting, "…on the areas of greatest risks retained." As previously stated in the comments, it is the risks retained, not the risks themselves.	
American Academy of Actuaries	Annex 5	Suggest inserting in between the second and third sentences "The combined effect is less only if the diversification effects are actually available, Diversification may work for non-participating or fully guaranteed products or benefits, but most products sold today in the United States are participating or price adjusted as experience emerges, and therefore unlikely to be available to offset some other product or benefit risks. Diversification does work when, for example, the same change in the stock market results affects two benefits provided in opposite directions.	

Member and Observer Comments on IAIS Draft Paper
Draft Guidance paper on capital requirements
(Comments due by 30 August 2007)

Name	Paragraph reference	Comment[1]	Resolution
American Academy of Actuaries	5	Paragraph mentions 8 key features; the paper only has 7.	
American Academy of Actuaries	15	Individual shareholders should not be held responsible for the solvency of the insurer.	
American Academy of Actuaries	24, footnote 11	"…(E)xpected to fall below that level in the immediate future" -- how short a period of time is "immediate"? We agree that the trend in the solvency level is important.	
American Academy of Actuaries	37	This paragraph is unclear. We agree that two possibilities exist for the relationship between PCR and MCR: two separate methods, or one method with two levels. The second type of relationship can have several practical expressions: PCR as a multiple of MCR, different CTE / percentile levels, etc.	
American Academy of Actuaries	43-45	These paragraphs seem to envision either a standard approach or internal models, but no hybrid situations (such as the use of internal models for only a portion of the risks, where appropriate, with the use of standard approaches for other risks). These paragraphs should acknowledge the possibility of a continuum from the use of no internal models, where appropriate, to the partial use of internal models, where appropriate, to the possible total replacement of the standardized approach by internal models, where appropriate.	
American Academy of Actuaries	43	We suggest the beginning of a new paragraph with the sentence, "The solvency regime should be established so that the need for capital add-ons is relatively rare." Capital add-ons are distinctly separate from the results of the standard approach, or the standard approach with some internal model requirements where appropriate, or results of internal modelling wherever appropriate, and are only appropriate where the regulator feels that the approach used does not produce appropriate results. We agree that capital add-ons should be rare and need to be set transparently and objectively.	
American Academy of Actuaries	46, also relates to 35	While we understand the need to project sales over the "shock period" in the capital calculation, we do not think that a further projection of sales is germane to regulatory capital requirements.	
American Academy of Actuaries	51	Dispute risk is inherent in any reinsurance transaction and should be included explicitly.	
American Academy of Actuaries	57	The inclusion of expected variation with respect to actuarial assumptions in the calculation of technical reserves seems inconsistent with the general trend toward using best / current estimates. The technical provisions include both a best estimate liability and an explicit provision for risk margin, and the risk margin may not necessarily include an expected variation in every assumption. For example, the level of future renewal premiums may not significantly change the calculated liability. Instead, risks due to policyholder behavior should be modeled via dynamic assumptions.	

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American Academy of Actuaries	57	Would the risk margin necessarily change due to the increase in best-estimate liability? The risk margin could change due to a formulaic relationship between the best-estimate liability and the risk margin, but is that necessarily appropriate in all cases? This should be revisited when the IAA re-releases its draft on current estimates and risk margins.	