ASSOCIATION ACTUARIELLE INTERNATIONALE
INTERNATIONAL ACTUARIAL ASSOCIATION

August 30, 2007

Mr. Yoshihiro Kawai
Secretary General
International Association of Insurance Supervisors
c/o Bank for International Settlements
CH-4002 Basel
Switzerland

Dear Mr. Kawai,

Re: IAA comments on the IAIS Draft Guidance paper on the use of internal models by insurers

In response to the request for comments on the July 1, 2007 IAIS Draft Guidance paper on the use of internal models by insurers, I am pleased to transmit on behalf of the International Actuarial Association (IAA) our comments and recommendations.

These comments have been prepared by the Solvency Subcommittee of the IAA and have been reviewed by the Insurance Regulation and Insurance Accounting Committees. If, upon reading these comments, you identify any points that you would wish to pursue, please do not hesitate to contact the chairperson of the Solvency Subcommittee, Stuart Wason, or any of the other members of the subcommittee. The IAA will be pleased to develop these ideas further with you.

Yours sincerely,

Yves Guérard
Secretary General

Attachment: IAA comments

cc: Mr. Rob Curtis, Chairman Solvency and Actuarial Issues Subcommittee

A Commentary on the
DRAFT GUIDANCE PAPER ON THE USE OF INTERNAL MODELS BY INSURERS
Released by the International Association of Insurance Supervisors: July 1, 2007

International Actuarial Association

The International Actuarial Association (the "IAA") represents the international actuarial profession. Our fifty-six Full Member actuarial associations represent more than 95% of all actuaries practicing around the world. The Full Member associations of the IAA are listed in an Appendix to this statement. The IAA promotes high standards of actuarial professionalism across the globe and serves as the voice of the actuarial profession when dealing with other international bodies on matters falling within or likely to have an impact on the areas of expertise of actuaries. The IAA appreciates the opportunity to provide comments on this IAIS document.

Due Process

These comments have been prepared by the Solvency Subcommittee of the Insurance Regulation Committee, the members of which are listed in an Appendix to this statement. The comments were reviewed by the Insurance Accounting and Insurance Regulation Committees. It has also been subject to the due process required for it to constitute a formal view of the IAA, and will be posted to the IAA's official web site.

IAA Comments and General Remarks

General

Since the paper is heavily focused on 'the use of internal models for risk and capital management purposes' we suggest the paper be renamed as such.

The overall tone of the paper suggests that there is (or should be) one universal internal model which is used for many purposes. While we believe it vital to attain and maintain the "alignment of risk and capital management" within the insurer we believe that different risk management uses of the internal model will necessitate appropriate modifications to suit that use. As well, we believe that for some time to come, even for the largest insurers, their "internal model" will likely be a composite of component models, some of which will be more or less advanced (depending perhaps on relevance and materiality) than others. We suggest that the overall tone of the paper be adjusted to reflect these real life issues.

The paper should use the term "internal model" consistently. For example, the Table of Contents uses the term in the singular, the plural, just "model" and "insurer's model".

A set of risks may be foreseeable but not necessarily quantifiable (e.g. legal, legislative and political risks).

The determination of capital requirements is naturally focused on the most extreme events. Unfortunately, information of these events (by their very definition) is limited and their accurate measurement is fraught with imprecision.

Internal models cannot be used to identify risks. Rather they can be used to quantify and show the interaction between risks.

Validation of a model can be difficult since use of a company's own data may require observation of a steady and lengthy timeframe of experience. On the other hand, use of external (industry) data is fraught with comparability issues.

The IAIS should consider its role in setting certain minimum requirements in several "soft" areas where individual company experience is not useful and yet certain levels of prudence and industry-wide consistency need to be maintained (e.g. long term volatilities of equities; tail correlations; level of catastrophic risk to be included; etc.).

Paragraph 3, 5, 7
The paper defines "internal models" in several paragraphs, each with slightly different words and with some apparent differences in meaning. To improve clarity and avoid confusion we suggest defining the term and internal model uses in one paragraph.

Perhaps paragraph 3 can be re-focused to say simply, "This paper provides guidance on the use of internal models for risk and capital management purposes."

Paragraph 7
The second sentence of paragraph 7 should be clarified to indicate that the IAIS focus is not on the other uses mentioned. Other uses not mentioned relate to the determination of liabilities for insurance contracts and in selecting an appropriate reinsurance structure.

While the IAA supports the alignment of risk and capital management through the use of internal models in a variety of ways within the insurer, we believe that the use of the word "embedded" is too strong.

We suggest replacing sentence 4 with, "Internal models should be key tools used and shared throughout the strategic, operational and risk management processes."

Paragraph 9
Internal models are very useful in the assessment of foreseeable risks but it may be important in this paragraph to note that "what we don't know, we don't know" (kudos to Donald Rumsfeld) is a very important part of risk management. Supervisors and insurers alike have an important role to play in trying to identify the unforeseeable as early as possible.

The IAIS should give its understanding of 'relevance' and 'material' here. We suggest that the term 'relevant material risk' be defined within this paper or reference be made to another document where it is defined.

Paragraph 12
Drafting suggestion:
Line 1 – Include "insurers" in list
Line 2 – Replace "guidance" with "types of internal models described"

Line 6 **–** “develop **experience with** a greater..”
Line 8 **–** “have **appropriate** resources..”
Line 9 **–** “models **to determine** regulatory capital levels”

Paragraph 13
We suggest that line 4 be changed to say “implications for the insurer **and supervisor**…”

Paragraph 18
An insurer having a model which may not be sufficient to be approved by the supervisor as an internal model should not be forced to improve its model to have the capabilities of an internal model.

We suggest replacing the initial wording with “where a choice of approach is available in a solvency regime, it is inappropriate for an insurer to be able to 'cherry-pick' between those approaches.” In addition, supervisors should seek justification from an insurer who decides not to use its **existing and approvable** internal model to calculate regulatory capital in cases where the supervisor considers that the insurer's risk profile differs considerably from the risks that are reflected in the standard approach."

KF#1
The idea of internal models being a main source for decision-making is an aggressive goal. Models should not run a business, nor should they be the exclusive drivers of decisions. Models should provide quantifiable guidance to management’s trained judgement.
In addition, few sophisticated models used for capital management can also be used for other functions such as pricing financial derivatives since the models for these functions are calibrated over time horizons of very different lengths. Calibrating over long horizons may require some compromises over very short horizons.

Paragraph 23
We suggest replacing “identify” in the sentence “…an internal model used in this context, should **reflect** all reasonably foreseeable..”

KF#2
We suggest that insurers should not have complete freedom in determining appropriate capital levels and that the appropriate minimum confidence level should be that set by the supervisor for the protection of policyholders.

Paragraph 24
An insurer should also consider relevant past and expected experience of its own as well as that from the industry.

The last sentence should be expanded to include the circumstances of an insurer with one or more closed blocks of business.

Paragraph 25
Similar to KF#2, this paragraph should identify that the supervisor will set the minimum confidence level.

Paragraph 28
We suggest changing the initial wording to, "where a supervisory regime allows the use of internal models **to determine regulatory capital requirements**, the supervisor should determine **certain** modeling criteria."

Paragraph 29
We suggest replacing in line 7 the words "this approximately equates to" with "such as the equivalent of."

Paragraph 31
One of the modelling criteria mentioned in paragraph 28 is "time horizon". Any change in the time horizon would constitute an enormous model change.

We are uncomfortable with the statement in this paragraph "to avoid undue competitive advantage" and would prefer that the supervisor focus on creating a level playing field for all insurers in its jurisdiction to the greatest extent possible. The same principles for capital determination should underlie advanced internal models as well as the standardized approach utilized by smaller insurers. Of course, for those insurers who can demonstrate better risk management they should be rewarded through lower capital requirements (e.g. perhaps due to more refined risk diversification modelling).

Paragraph 33
We suggest adding to the end of the first sentence the words "and different risk exposures". Sentence 3 could be altered to state "in broad terms, these could range from running its model using more than one deterministic scenario to complex stochastic models." Also sentence 4 could be altered to state, "alternative deterministic scenarios would typically involve the use of stress and scenario testing reflecting an event or a change in conditions…"

Paragraph 34
The last part of the second sentence which begins with "and then constructing…" is not clear. Perhaps the sentence could simply state, "For example, the insurer may decide to model the effect of various economic scenarios on its asset and liability matching position."

Paragraph 35
This paragraph introduces the very important topic of risk aggregation. This requires an understanding of the way in which risks interact with each other, especially in times of stress (i.e. tail correlations). One way in which these interactions can be reflected (i.e. diversification) when aggregating risk is through the use of a correlation matrix. The 3rd sentence in the current paragraph is therefore not needed. We suggest that the topic of risk diversification is a very important one and may be one of the "soft" issues on which the supervisor may need to consider some minimum standards.

Paragraph 36
The 1st sentence indicates that the internal model should be the primary tool in strategic decision making. We suggest this may be too strong a statement. Perhaps “the primary” should be replaced by “a key” (see comments for para 7 and KF#1).

Paragraph 38, Footnote 15
A review which is done by those that created the model neither improves control nor generates feedback. It should, therefore, be made clear that independence is required.

We suggest the footnote be changed to state: “To facilitate independence validation testing **should** be carried out by a different department or personnel from those that created the internal model.”

Paragraph 40
The use of "data" in this section may be confusing to some – it seems in many places to be referring to both the underlying data and the experience. This should be made clearer.

Paragraph 42
We suggest that the following be added to the end of the 3rd sentence, “or from smaller insurers whose market may not be applicable for all or many insurers.”

Paragraph 44
We suggest that the term “robustness’ may not be commonly understood and, thus, requires some definition.

Paragraph 45
We suggest part of the wording in the last sentence be changed to state “calibration testing should be conducted by the insurer.”

Paragraph 46
While we welcome the reference to the concept of "market consistent", it appears in the paper only in the context of the "calibration test". We suggest that broader reference be made in the paper to the importance of using market consistent information in valuing risks as described in Cornerstone IV. We also suggest using the words "economic value based" which is clearly defined in the "standard on asset-liability management" instead of "market consistent" to avoid any confusion because the term "market consistent" could be interpreted in a narrower sense as defined, for example, in the context of IFRS accounting.

We suggest that the end of the first sentence be changed to state “at the determined level of confidence.” Also we suggest the 2nd sentence be changed to state “..which should facilitate consistency and comparison between models.”

Paragraph 47
There should be reference in this paragraph or the two preceding paragraphs to the need to calibrate the results of the model to various benchmarks (i.e. ability of interest rate generator to re-produce historical yield curves, historical rate of inversions, etc).

KF#7
We suggest that the Board of an insurer is unlikely to have the expertise to evaluate the alternate approaches to the "construction" of internal models as mentioned in paragraph 2. However, the Board should be apprised of the model's underlying framework, principles and objectives. We suggest that paragraph 2 end with the words "in particular in relation to risk and capital management decisions."

Paragraph 51
Not many Board members will have sufficient technical knowledge to maintain control (i.e. as used in line 7 of this paragraph) of the model's operation. It would be useful to describe the IAIS' view of the role of the Board.

Paragraph 52
In today's world of flexible management information, it seems somewhat out-of-date to require in line 8 that the "format" be controlled and fixed. We suggest it is preferable to request the "purpose and type" of management information be specified rather than the "form and content."

Paragraph 57
We suggest that the word "primary" in line 3 may confuse readers. Is it meant to modify internal models used for regulatory capital or for risk management?

Paragraph 58
We suggest that in the 2nd last line only "**significant** underlying assumptions" require reassessment by the supervisor.

KF#10
We suggest that there is a need (paragraph #2) for a supervisor to be able to "review and approve of an internal model on an ongoing basis."

Paragraph 66
We suggest the opening sentence be changed to state, "the level of information on internal models necessary to allow meaningful assessment by stakeholders would include **appropriate information** regarding the insurer's risk and capital management strategy."

Public disclosure should not require the insurer to compare results obtained by an internal model which has been approved by the supervisor with the supervisory standard formula. In this case the internal model results are more appropriate than the results of the standard formula. We suggest that the 2nd sentence be changed to state that "an **insurer should disclose the fact that an internal model has been approved by the supervisor and explain why this model is more suitable to the risk situation of the insurer than the standard formula. The** insurer should disclose details of the risks assessed by the model, including how these are identified and measured, as well as information on the results of the internal model analysis and the economic capital derived from these results."

Paragraph 70
The paper seems to suggest that partial models will be transitory during internal model development. We suggest that partial models may be a permanent state of affairs even for the largest and most able insurers. These insurers may determine that, for less relevant or less material risks, standard approaches may be a cost effective approach and consistent with sound risk management practices. Of course, if an insurer assumes complex risks of any size, it should be prepared to use appropriately advanced internal models.

We suggest that the 4th sentence be changed to state “using a partial internal model to calculate one or more elements of regulatory capital.” We also suggest the last sentence be revised to state, “supervisors should place the onus on the insurer to justify why they have chosen, for example, to use an internal model for certain business lines but not others.”

Appendix A

Members of the IAA Solvency Subcommittee

Stuart Wason	Chairperson
H.W.M. Van Broekhoven	Vice-Chairperson
Mohamed Adlioui	Association Royale des Actuaires Belges
Allan Brender	Canadian Institute of Actuaries
Tenny Siu Pong Chong	Actuarial Society of Hong Kong
Anthony Coleman	Institute of Actuaries of Australia
John Norman Darvell	Faculty of Actuaries
Felipe Gomez Rojas	Instituto de Actuarios Españoles
R Kannan	Actuarial Society of India
Toshihiro Kawano	Institute of Actuaries of Japan
Philipp Keller	Association Suisse des Actuaires
Dieter Köhnlein	Deutsche Aktuarvereinigung e.V. (DAV)
Christoph Krischanitz	Aktuarvereinigung Österreichs (AVÖ)
Charles Levi	Polskie Stowarzyszenie Aktuariuszy
Helge Ivar Magnussen	Den Norske Aktuarforening
Glenn Meyers	Casualty Actuarial Society
Harry H Panjer	Society of Actuaries
Frank Rasmussen	Den Danske Aktuarforening
Maria Jesus Romero Santo-Tomas	Col.legi d'Actuaris de Catalunya
Norma Alicia Rosas	Colegio Nacional de Actuarios A.C.
Richard Roth	Conference of Consulting Actuaries
Arne Sandström	Svenska Aktuarieföreningen
Nino Savelli	Istituto Italiano degli Attuari
Tim Sheldon	Institute of Actuaries
Alkis Tsimaratos	Institut des Actuaires
H.W.M. Van Broekhoven	Het Actuarieel Genootschap
Johanna Elizabeth Van Heerden	Actuarial Society of South Africa
Therese Vaughan	American Academy of Actuaries
Marcela Vítková	Ceská Spolecnost Aktuárù
Eret Võsa	Eesti Aktuaaride Liit
Roberto Westenberger	Instituto Brasileiro de Atuária (IBA)
Igor Zoric	Udruženje Aktuara Srbije

Appendix B

Full Member Associations of the IAA

Consejo Profesional de Ciencias Económicas de la Ciudad Autónoma de Buenos Aires (Argentina)
Institute of Actuaries of Australia (Australia)
Aktuarvereinigung Österreichs (AVÖ) (Austria)
Association Royale des Actuaires Belges (Belgique)
Instituto Brasileiro de Atuária (IBA) (Brazil)
Canadian Institute of Actuaries/Institut Canadien des Actuaires (Canada)
Institut des Actuaires de Côte d’Ivoire (Côte d’Ivoire)
Hrvatsko Aktuarsko Drustvo (Croatia)
Cyprus Association of Actuaries (Cyprus)
Ceská Spolecnost Aktuárù (Czech Republic)
Den Danske Aktuarforening (Denmark)
Egyptian Society of Actuaries (Egypt)
Eesti Aktuaaride Liit (Estonia)
Suomen Aktuaariyhdistys (Finland)
Institut des Actuaires (France)
Deutsche Aktuarvereinigung e. V. (DAV) (Germany)
Hellenic Actuarial Society (Greece)
Actuarial Society of Hong Kong (Hong Kong)
Magyar Aktuárius Társaság (Hungary)
Félag Islenskra Tryggingastærðfræðinga (Iceland)
Actuarial Society of India (India)
Persatuan Aktuaris Indonesia (Indonesia)
Society of Actuaries in Ireland (Ireland)
Israel Association of Actuaries (Israel)
Istituto Italiano degli Attuari (Italy)
Institute of Actuaries of Japan (Japan)
Japanese Society of Certified Pension Actuaries (Japan)
Latvijas Aktuaru Asociacija (Latvia)
Lebanese Association of Actuaries (Lebanon)
Persatuan Aktuari Malaysia (Malaysia)
Colegio Nacional de Actuarios A. C. (Mexico)
Het Actuarieel Genootschap (Netherlands)
New Zealand Society of Actuaries (New Zealand)
Den Norske Aktuarforening (Norway)
Pakistan Society of Actuaries (Pakistan)
Actuarial Society of the Philippines (Philippines)
Polskie Stowarzyszenie Aktuariuszy (Poland)
Instituto dos Actuários Portugueses (Portugal)
Academia de Actuarios de Puerto Rico (Puerto Rico)
Singapore Actuarial Society (Singapore)
Slovenska Spolocnost Aktuarov (Slovakia)
Slovensko Aktuarsko Drustvo (Slovenia)
Actuarial Society of South Africa (South Africa)
Col.legi d'Actuaris de Catalunya (Spain)

Instituto de Actuarios Españoles (Spain)
Svenska Aktuarieföreningen (Sweden)
Association Suisse des Actuaires (Switzerland)
Actuarial Institute of Chinese Taipei (Taiwan)
Faculty of Actuaries (United Kingdom)
Institute of Actuaries (United Kingdom)
American Academy of Actuaries (United States)
American Society of Pension Professionals & Actuaries (United States)
Casualty Actuarial Society (United States)
Conference of Consulting Actuaries (United States)
Society of Actuaries (United States)