

Consultation Paper on the  
Own Risk and Solvency Assessment (ORSA)  
for the Solvency Modernization Initiative

Appendices:

One: IAIS Draft ERM Standard and Guidance

Two: Bermuda CISSA Report

Three: Switzerland Questionnaire

Four: U.S. Risk-Focused Examination Exhibits

Appendix One:  
IAIS Draft ERM Standard and Guidance

# **INTERNATIONAL ASSOCIATION OF INSURANCE SUPERVISORS**



## **STANDARD ON ENTERPRISE RISK MANAGEMENT FOR SOLVENCY PURPOSES**

**DRAFT FOR INFORMATION, 10 JUNE 2010**

This document was prepared by the Solvency and Actuarial Issues Subcommittee in consultation with IAIS members and observers.

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**Standard on enterprise risk management for solvency purposes**


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**Application**

*This standard applies to insurance legal entities and insurance groups unless otherwise stated. The standard does not directly apply to non-insurance entities (regulated or unregulated) within an insurance group but it does apply to insurance legal entities and insurance groups with regard to the risks posed to them by non-insurance entities.*

**1. Enterprise Risk Management framework***Risk identification and measurement*

The solvency regime requires:

1. the insurer's enterprise risk management framework to provide for the identification and quantification of risk under a sufficiently wide range of outcomes using techniques which are appropriate to the nature, scale and complexity of the risks the insurer bears and adequate for risk and capital management and for solvency purposes.
2. the insurer's measurement of risk to be supported by accurate documentation providing appropriately detailed descriptions and explanations of the risks covered, the measurement approaches used, and the key assumptions made.

*Risk management policy*

The solvency regime requires the insurer to have a risk management policy which:

3. outlines how all relevant and material categories of risk are managed, both in the insurer's business strategy and in its day-to-day operations.
4. describes the relationship between the insurer's tolerance limits, regulatory capital requirements, economic capital and the processes and methods for monitoring risk.
5. includes an explicit asset-liability management (ALM) policy which clearly specifies the nature, role and extent of ALM activities and their relationship with product development, pricing and investment management.
6. is reflected in an explicit investment policy which:

- a. specifies the nature, role and extent of the insurer's investment activities, and how the insurer complies with the regulatory investment requirements established in the solvency regime.
  - b. establishes explicit risk management procedures within its investment policy with regard to more complex and less transparent classes of asset and investment in markets or instruments that are subject to less governance or regulation.
7. includes explicit policies in relation to underwriting risk.

*Risk tolerance statement*

The solvency regime requires the insurer:

8. to establish and maintain a risk tolerance statement which sets out its overall quantitative and qualitative risk tolerance levels and defines risk tolerance limits which take into account all relevant and material categories of risk and the relationships between them.
9. to make use of its risk tolerance levels in its business strategy.
10. to embed its defined risk tolerance limits in its day-to-day operations via its risk management policies and procedures.

*Risk responsiveness and feedback loop*

The solvency regime requires:

11. the insurer's ERM framework to be responsive to changes in its risk profile.
12. the insurer's ERM framework to incorporate a feedback loop, based on appropriate and good quality information, management processes and objective assessment, which enables it to take the necessary action in a timely manner in response to changes in its risk profile.

## **2. Own Risk and Solvency Assessment (ORSA)**

The solvency regime requires:

13. the insurer regularly to perform its own risk and solvency assessment (ORSA) to assess the adequacy of its risk management and current, and likely future, solvency position.
14. the insurer's board and senior management to be responsible for the ORSA.
15. the insurer's ORSA to encompass all reasonably foreseeable and relevant material risks including, as a minimum, underwriting, credit, market, operational, liquidity risks and additional risks arising due to membership of a group. The assessment is required to identify the relationship between risk management and the level and quality of financial resources needed and available.
16. the insurer, as part of its ORSA, to determine the overall financial resources it needs to manage its business given its own risk tolerance and business plans, and to demonstrate that supervisory requirements are met.

**IAIS Standard on enterprise risk management for solvency purposes**

17. the insurer to assess the quality and adequacy of its capital resources to meet regulatory capital requirements and any additional capital needs.
18. the insurer to base its risk management actions on consideration of its economic capital, regulatory capital requirements and financial resources, including its ORSA.
19. the insurer, as part of its ORSA, to analyse its ability to continue in business, and the risk management and financial resources required to do so over a longer time horizon than typically used to determine regulatory capital requirements.
20. the insurer's continuity analysis to address a combination of quantitative and qualitative elements in the medium and longer term business strategy of the insurer and include projections of its future financial position and analysis of its ability to meet future regulatory capital requirements.

### **3. Role of supervision in risk management**

21. The supervisor undertakes reviews of an insurer's risk management processes and its financial condition, including the ORSA. Where necessary, the supervisor requires strengthening of the insurer's risk management, solvency assessment and capital management processes.

# **INTERNATIONAL ASSOCIATION OF INSURANCE SUPERVISORS**



## **GUIDANCE PAPER ON ENTERPRISE RISK MANAGEMENT FOR SOLVENCY PURPOSES**

**DRAFT FOR INFORMATION**

**10 JUNE 2010**

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**1. Application**

1. This guidance applies to insurance legal entities and insurance groups unless otherwise stated. The guidance does not directly apply to non-insurance entities (regulated or unregulated) within an insurance group, but it does apply to insurance legal entities and insurance groups with regard to the risks posed to them by non-insurance entities.
2. In this paper the term 'insurance legal entity' is used to denote either a stand-alone insurer or an insurer which is a member of an insurance group. Unless otherwise specified, reference to an 'insurer' includes reference to both an insurance legal entity and an insurance group (as appropriate in the particular context).
3. This paper provides guidance on enterprise risk management for solvency purposes of insurance legal entities (whether they are stand-alone insurers or insurers that are members of insurance groups) and insurance groups. It also provides guidance on the interrelationships between enterprise risk management in each context.
4. Dedicated sub-sections of this paper provide additional guidance on groups under the heading '*Additional guidance for insurance groups and insurance legal entities that are members of groups.*'

## 2. Introduction

5. Since its inception in 1994, the IAIS has developed a number of principles, standards and guidance papers to help promote the development, globally, of well-regulated insurance markets. Central to this objective is the development of a common framework for insurance supervision that establishes a common structure within which standards and guidance on insurance solvency assessment may be developed. Insurer solvency takes a central position in risk management by insurers and in insurance supervision. Consideration of the standards and guidance that should apply to enterprise risk management for solvency purposes, therefore, contributes towards the development of the IAIS framework for insurance supervision.
6. The IAIS recognises that the use of good risk management practices and procedures is an important aspect for insurers in their effective management of the insurance business.
7. This paper emphasises the importance of an enterprise risk management framework from a supervisory perspective in underpinning robust insurance legal entity and group-wide solvency assessment. It provides supporting guidance on the 21 key requirements set out in the *Standard on enterprise risk management for solvency purposes* (the ERM Standard). The requirements in this standard are principles-based and apply in respect of all insurers whatever their structure and mode of operation as appropriate to the nature, scale and complexity of the risks borne by the insurer.
8. This paper recognises that risk management may be conducted at an insurance group level, complementing the risk management at insurance legal entity level or that risk management by an insurance legal entity may be part of a broader system. It also recognises that risk management may be aligned with a group's management structure rather than with its legal entity structure and may reflect different levels of centralisation, in particular as to its operations.
9. As well as supporting effective solvency assessment, considering the guidance in this paper should assist insurers themselves to have appropriate risk management policies, practices and structures in place which are applied consistently across their organisations, and embedded within their processes. By encouraging insurers to follow the requirements in the ERM Standard and to consider the supporting guidance in this paper, supervisors will help to maintain the effectiveness of the solvency regime and, in addition, assist in establishing and maintaining a well regulated insurance industry overall.
10. This paper focuses specifically on the risk management element of governance as it relates to solvency assessment. The broader issues of governance and risk management are the subject of other IAIS work<sup>1</sup>.

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<sup>1</sup> The IAIS is advancing further work on governance issues through the Governance and Compliance Subcommittee.

### 3. Enterprise Risk Management

11. Several different terms are commonly used to describe the process of identifying, assessing, measuring, monitoring, controlling and mitigating risks. This paper uses the generic term enterprise risk management (ERM) in describing these activities in respect of the insurance enterprise as a whole.
12. The *raison d'être* of insurance is the assumption, pooling and spreading of risk so as to mitigate the risk of adverse financial consequences to individuals and businesses that are policyholders. For this reason, a thorough understanding of risk types, their characteristics and interdependencies, the sources of the risks and their potential impact on the business is essential for insurers. Insurers should exhibit an understanding of their enterprise risk issues and show a willingness and ability to address those issues. Supervisors should, therefore, seek to ensure that the insurer has a competent understanding of risk and implements sound risk management practices. The ultimate aim of insurance is to create and protect value for policyholders while using capital resources efficiently. A purpose of both risk and capital management is to protect policyholders and capital providers from adverse events. It is therefore natural for insurers to combine the management of risk and capital.
13. ERM involves the self-assessment of all reasonably foreseeable and relevant material risks that an insurer faces and their interrelationships. One outcome of ERM, which is particularly relevant for this paper, is that decisions regarding risk management and capital allocation can be co-ordinated for maximum financial efficiency and, from a supervisory viewpoint, the adequate protection of policyholders. A fundamental aspect of ERM is a primary focus on the actions that an insurer takes to manage its risks on an ongoing basis, and specific aspects of those risks, so as to ensure that they are the risks it intends to retain both individually and in aggregate and that the insurer stays within its risk tolerance. ERM also involves the rigorous enforcement of risk standards, policies and limits.
14. ERM is an acknowledged practice and has become an established discipline and separately identified function assuming a much greater role in many insurers' everyday business practices. Originally, risk management only facilitated the identification of risks, and was not fully developed to provide satisfactory methods for measuring and managing risks, or for determining related capital requirements to cover those risks. ERM processes being developed today by insurers increasingly use internal models and sophisticated risk metrics to translate risk identification into management actions and capital needs. Internal models are recognised as powerful tools that may be used, where it is proportionate to do so, to enhance company risk management and to better embed risk culture in the company. They can be used to provide a common measurement basis across all risks (e.g. same methodology, time horizon, risk measure, level of confidence, etc.) and enhance strategic decision-making, for example capital allocation and pricing. Such an approach typically adopts a total balance sheet approach whereby the impact of the totality of material risks is fully recognised on an economic basis. A total balance sheet approach reflects the interdependence between assets, liabilities, capital requirements and capital resources, and identifies a capital allocation, where needed, to protect the insurer and its policyholders and to optimise returns to the insurer on its capital<sup>2</sup>.

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<sup>2</sup> Refer to the IAIS *Standard and Guidance paper on capital adequacy for regulatory solvency purposes* (October 2010) for more detail on capital requirements.

15. ERM provides a link between the ongoing operational management of risk and longer-term business goals and strategies. Appropriate risk management policies should be set by each insurer according to the nature, scale<sup>3</sup> and complexity of its business and the risks it bears. The guidance in this paper focuses on the link between risk management and the management of capital adequacy and solvency.
16. The objective of ERM is not to eliminate risk. Rather, it is to manage risks within a framework that includes self-imposed limits. In setting limits for risk, the insurer should consider its solvency position and its risk tolerance. Limits should be set after careful consideration of corporate objectives and circumstances, and, where appropriate, should take into account the projected outcomes of scenarios run using a range of plausible future business assumptions which reflect sufficiently adverse scenarios. Within these limits, risks can be reduced if this is cost effective, or increased, if justified by the expectation of enhanced returns and the availability of additional capital, without endangering the capacity of the insurer to meet its commitments to policyholders.
17. The IAIS recognises the different levels of sophistication of supervisors and insurance markets around the world and acknowledges that the guidance within this paper may not be fully achievable by some insurers and in some markets in the near future. Nevertheless, the IAIS believes that good risk management practices and procedures need to be in place for a solvency regime to be effective. ERM that follows the guidance in this paper is expected to enhance confidence in assessing an insurer's financial strength. The IAIS envisages that solvency regimes will, over time, be developed towards conformity with the IAIS standards and guidance papers. The IAIS nevertheless wishes to emphasise that this paper does not prescribe a specific aspect of a solvency regime which is to be applied compulsorily by IAIS members. It should be noted in this respect that the concepts presented and the terminology used in IAIS papers are intended to be of a general nature and should not be interpreted as legally binding in a specific supervisory regime.

*Additional guidance for insurance groups and insurance legal entities that are members of groups*

18. The *IAIS Principles on group-wide supervision* (October 2008) (the Principles Paper) establishes an internationally acceptable framework for insurance groups to help ensure appropriate consistency, efficiency and effectiveness of supervision on a group-wide basis, while preserving the level of protection of all policyholders in the group. It sets out principles to improve the way insurance groups are supervised covering capital adequacy, governance, risk management and internal controls, as well as the supervisory approach.

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<sup>3</sup> The scale of the business is a relevant factor. Some insurers may be less well diversified and more susceptible to risks arising from external sources. They may also need to structure their risk management functions differently from other insurers and commission external consultants to achieve satisfactory standards and robust processes; they may need to use reinsurance to a greater extent.

19. Principle 3 of the Principles Paper states that 'Adequate risk management and internal controls should be in place within the group and should be assessed on a group-wide basis to enhance the assessment of the solo entities'. The Principles Paper goes on to make observations about risk management in the context of group-wide supervision which are particularly pertinent to solvency assessment. These include<sup>4</sup>:
- a. Groups may adopt different types of management structure: in some groups the management structure may correspond closely to the legal entity structure, whereas in others this is not the case. Supervisors should take the management structure of the group into consideration and assess whether risk is being adequately managed at the appropriate level within the group.
  - b. When business activities and risks are managed independently of legal entities, e.g. on a business-line basis across the group, it is not sufficient to assess risk management only at individual insurer level. Supervisors need to be able to establish, with a reasonable level of assurance, that risks are being managed appropriately on a group-wide basis and that the soundness of both the group and each insurer within the group is secured.
  - c. Even in the case where insurers within the group are independently managed, their respective decisions and risk management policies may have consequences for the group as a whole and the other entities within the group. Appropriate assessment of risk management and internal controls on a group-wide basis is still important.
  - d. Being part of a group may enable some insurers to underwrite larger amounts of risk, and risks of higher magnitude, than would be possible on a stand-alone basis. Risk mitigation arrangements (e.g. reinsurance) may or may not be in place. It is, therefore, crucial that the role of each insurer within the group is clearly defined and that clear limits on the risk taken by the insurers are established. It is also crucial that the group as a whole has robust internal control mechanisms in place to identify risks, of legal entities or on a business-line basis as appropriate, across the group, and to enable the senior management at the head of the group to have relevant and timely information for its decision making processes.
  - e. The group-wide supervisor<sup>5</sup> has appropriate responsibility for assessing the adequacy of the risk management and internal control systems on a group-wide basis and to ensure that the insurance legal entity supervisors are able to cooperate effectively within the group context. It is the responsibility of the supervisor of each insurer to assess the adequacy of the systems for the business of that insurer. The group-wide supervisor should take into account the assessment made by the insurance legal entity supervisors as far as relevant.
  - f. Close cooperation between insurance legal entity supervisors and the group-wide supervisor is therefore required for the assessment of the adequacy of the internal control mechanisms at the group level and to ensure that senior management of the group is provided with relevant information on risks across the group.

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<sup>4</sup> For precise wording and context please see IAIS Principles on group-wide supervision (October 2008)

<sup>5</sup> The supervisor of the jurisdiction where the head of the group is based (the group-wide supervisor) takes the appropriate lead in the responsibilities of group-wide supervision, unless there is agreement between supervisors of an alternative group-wide supervisor.

### 3.1 Enterprise Risk Management framework

20. Under IAIS governance standards the supervisory regime requires the insurer, as part of its overall governance structure, to establish, and operate within, a sound Enterprise Risk Management (ERM) framework which is appropriate to the nature, scale and complexity of its business and risks. The insurer's ERM framework is required to be integrated with its business operations and culture, and to address all reasonably foreseeable and relevant material risks it faces in accordance with a properly constructed risk management policy. The insurer's board and senior management is required to oversee the establishment and operation of the ERM framework. The existence of good governance processes and practices is crucial to the effective operation of the ERM framework for solvency purposes.

### 3.2 Risk Identification and Measurement

**The solvency regime requires:**

#### **Requirement 1**

**the insurer's enterprise risk management framework to provide for the identification and quantification of risk under a sufficiently wide range of outcomes using techniques which are appropriate to the nature, scale and complexity of the risks the insurer bears and adequate for risk and capital management and for solvency purposes.**

#### **Requirement 2**

**the insurer's measurement of risk to be supported by accurate documentation providing appropriately detailed descriptions and explanations of the risks covered, the measurement approaches used and the key assumptions made.**

#### *Risk identification*

21. The ERM framework should identify and address all reasonably foreseeable and relevant material risks to which an insurer is, or is likely to become, exposed. Such risks should include, at a minimum, underwriting risk<sup>6</sup>, market risk, credit risk, operational risk and liquidity risk and may also include, for example, legal risk and risk to the reputation of the insurer.
22. After identification of risks, an insurer should highlight significant risks together with possible key leading indicators (e.g. a relevant stock market indicator). This information should be included in regular management information which is relevant and focussed.

#### *Causes of risk and the relationship between risks*

23. An insurer should consider the causes of different risks and their impacts and assess the relationship between risk exposures. By doing so, an insurer can better identify both strengths and weaknesses in governance, business and

<sup>6</sup> This paper uses the term 'underwriting risk' in the sense used in the IAA publication *Global Framework for Insurer Solvency Assessment (2004)*. It has a broad meaning, i.e. it includes claims, expense, reserving risks and the risks associated with guarantees and options embedded in policies.

control functions, and should use and improve risk management policies, techniques and practices and change its organisational structure to make these improvements where necessary. The insurer should also assess external risk factors which, if they were to crystallise, could pose a significant threat to its business. The insurer should recognise the limitations of the methods it uses to manage risks, the potential impact these limitations may have, and adapt its risk management appropriately.

24. In assessing the relationship between risk exposures, consideration should be given to correlations between the tails of risk profiles. For example, risks that show no strong dependence under normal economic conditions, such as catastrophe risks and market risks, could be more correlated in a stress situation.
25. As an illustration, insurers should be particularly aware that certain major trigger events, such as catastrophes, downgrades from rating agencies or other events that have an adverse impact on the insurer's reputation, can result, for example, in a high level of claims, collateral calls or policyholder terminations, especially from institutional counterparties or institutional policyholders and hence lead to serious liquidity issues. The ERM framework should adequately address the insurer's options for responding to such trigger events.

*Measuring, analysing and modelling the level of risk*

26. The level of risk is a combination of the impact that the risk will have on the insurer and the probability of that risk materialising. The level of risk borne by the insurer should be assessed regularly using appropriate forward-looking quantitative techniques such as risk modelling<sup>7</sup>, stress testing and scenario analysis. An appropriate range of adverse circumstances and events should be considered, including those that pose a significant threat to the financial condition of the insurer, and management actions should be identified together with the appropriate timing of those actions. Risk measurement techniques should also be used in developing long-term business and contingency plans, where it is proportionate to do so.
27. Different approaches may be appropriate depending on the nature, scale and complexity of a risk and the availability of reliable data on the behaviour of that risk. For example, a low frequency but high impact risk where there is limited data, such as catastrophe risk, may require a different approach from a high frequency, low impact risk for which there is substantial amounts of experience data available. Stochastic risk modelling may be appropriate to measure some non-life catastrophe risks for example, whereas relative simple calculations may be appropriate in other circumstances.
28. The measurement of risks should be based on a consistent economic assessment of the total balance sheet as appropriate to ensure that appropriate risk management actions are taken. In principle, ERM should take into consideration the distribution of future cash flows to measure the level of risks. Care should be taken not to base ERM decisions purely on accounting or regulatory measures that involve non-economic considerations and conventions although the constraints on cash flows that they represent should be taken into account.
29. The quantitative assessment of risks the insurer faces provides it with a

<sup>7</sup> 'Modelling in this context does not necessarily mean complex stochastic modelling. It can also include less sophisticated methods.'

disciplined method of monitoring risk exposure. Assessments undertaken at different times should be produced on a broadly consistent basis overall, so that any variations in results can be readily explained. Such analysis also aids an insurer in prioritising its risk management.

30. Where models are used, it must be remembered that, regardless of how sophisticated they are, they cannot exactly replicate the real world. As such, the use of models itself generates risk (modelling and parameter risk) which, if not explicitly quantified, at least needs to be acknowledged and understood as the insurer implements its ERM framework, including by the insurer's board and senior management.
31. Models may be external or internal. External models may be used to assess external insurance or market risks while internal models may be developed by an insurer to assess specific material risks or to assess its risks overall where this cannot be done appropriately by external models.
32. Internal models can play an important role in facilitating the risk management process and supervisors should encourage insurers to make use of such models for parts or all of their business where it is proportionate to do so. Further guidance on the use of internal models for the insurers own risk and solvency assessment is contained in section 4.2 below. More information on the use of internal models in meeting regulatory capital requirements and the supervisory approval required can be found in the IAIS *Standard and Guidance paper on the use of internal models for regulatory capital purposes* (October 2010)..
33. Where a risk is not readily quantifiable, for instance some operational risks or where there is an impact on the insurer's reputation, an insurer should make a qualitative assessment that is appropriate to that risk and sufficiently detailed to be useful for risk management. An insurer should analyse the controls needed to manage such risks to ensure that its risk assessments are reliable and consider events that may result in high operational costs or operational failure. Such analysis is expected to inform an insurer's judgements in assessing the size of the risks and enhancing overall risk management.
34. Stress testing measures the financial impact of stressing one or relatively few factors affecting the insurer. Scenario analysis considers the impact of a combination of circumstances which may reflect extreme historical scenarios which are analysed in the light of current conditions. Scenario analysis may be conducted deterministically using a range of specified scenarios or stochastically, using models to simulate many possible scenarios, to derive statistical distributions of the results.
35. Stress testing and scenario analysis should be carried out by the insurer to validate and understand the limitations of its models. They may also be used to complement the use of models for risks that are difficult to model, or where the use of a model may not be appropriate from a cost-benefit perspective. This may arise, for example, where a range of calculations is urgently required focusing on specific aspects or going beyond the current parameters of the model to investigate the effect of proposed management actions.
36. Scenario analysis may be particularly useful as an aid to communication in relation to risk management between the board and senior management and other parts of the organisation thereby facilitating the integration of the insurer's

ERM framework with its business operations and culture.

37. Reverse stress testing, which identifies scenarios that are most likely to cause an insurer to fail, may also be used to enhance risk management. While some risk of failure is always present, such an approach may help to ensure adequate focus on the management actions that are appropriate to avoid undue risk of business failure. The focus of such reverse stress testing is on appropriate risk management actions rather than the assessment of financial adequacy and so may be largely qualitative in nature although broad assessment of associated financial impacts may help in deciding the appropriate action to take.
38. Measurement of risk should be supported by accurate documentation providing appropriately detailed descriptions and explanations of risks, the measurement approaches used and the key assumptions made.

*Additional guidance for insurance groups and insurance legal entities that are members of groups*

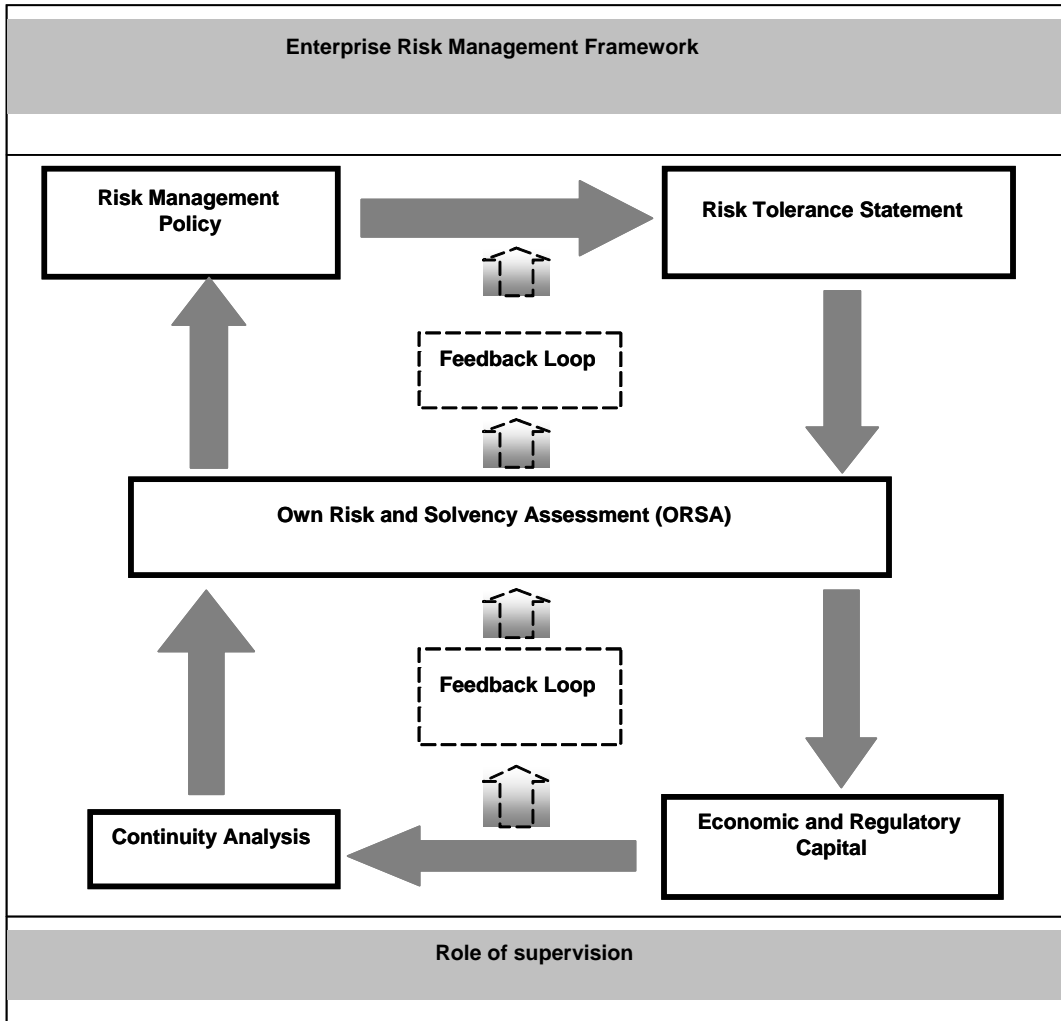
39. 'Group risk' arises for insurance legal entities that are members of groups. Group risk also arises for an insurance group in respect of the widest group of which it is part. Group risk includes the risk that an insurance legal entity may be adversely affected by an occurrence (financial or non-financial) in another group entity. For instance, losses in one group member may create pressure to divert the financial resources of other members of the group to that entity or otherwise lead to a depletion of those financial resources. Group risk also includes the risk that the financial stability of a group or insurance legal entities within the group may be adversely affected by an event in a legal entity, a group-wide occurrence or an event external to the group. For example, the positive aspects of being a member of a group might be lessened due to restructuring.
40. Group risk may arise, for example, through contagion, leveraging, double or multiple gearing, concentrations, large exposures and complexity. Participations, loans, guarantees, risk transfers, liquidity, outsourcing arrangements, and off-balance sheet exposures may all give rise to group risk. Many of these risks may be borne by stand-alone insurance legal entities and are not specific to membership of a group. However, the inter-relationships among group members including aspects of control, influence and interdependence alter the impact of risks on group members and should therefore be taken into account in managing the risks of an insurance legal entity that is a member of an insurance group and in managing the risks of that insurance group as a whole. To be effective, the management of insurance group risk needs to take into account risks arising from all parts of an insurance group including non-insurance entities (regulated or non-regulated) and partly-owned entities.
41. The risks identified and the techniques that are appropriate and adequate for measuring them, including stress testing, scenario analysis, risk modelling and reverse stress testing, may differ at insurance group and insurance legal entity level. Where an insurance legal entity's ERM framework is an integral part of the insurance group's ERM framework, the techniques used to measure risks at insurance legal entity level should include those that are appropriate and adequate at the insurance legal entity level in order to meet the insurance legal entity's ERM requirements.
42. The ERM of an insurance group should address the direct and indirect interrelationships between its members. The more clearly-defined and understood such relationships are, the more accurately they can be allowed for in the group-wide solvency assessment. For example, legally enforceable capital

and risk transfer instruments (CTRI) established between insurance group members may help to establish the integrity of the insurance group and the effectiveness of its ERM framework for group-wide solvency assessment purposes.

43. Assumptions that are implicit in the solvency assessment of an insurance legal entity may not apply at an insurance group level because of the legal separation of insurance group members. For example, there may be few constraints on the fungibility of capital and the transferability of assets within an individual insurance legal entity. An assumption of full fungibility may be appropriate for such an insurer<sup>8</sup>. However, such constraints may feature much more prominently for an insurance group and may, for example, restrict the degree to which benefits of diversification of risks across the group can be shared among group members. Such constraints should be taken into account in both the insurance group's and the insurance legal entity's ERM frameworks.
44. The following diagram illustrates the IAIS standard ERM framework showing the key features of the framework as described in the following sections of this paper.

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<sup>8</sup> This assumption may not always be appropriate for an insurance legal entity e.g. if it has branches in different jurisdictions where restrictions on fungibility of capital apply or where there is ring-fencing of with-profit funds.



### 3.3 Risk management policy

The solvency regime requires the insurer to have a risk management policy which:

#### Requirement 3

outlines how all relevant and material categories of risk are managed, both in the insurer's business strategy and its day-to-day operations.

#### Requirement 4

describes the relationship between the insurer's tolerance limits, regulatory capital requirements, economic capital and the processes and methods for monitoring risk.

#### Requirement 5

includes an explicit asset-liability management (ALM) policy which clearly specifies the nature, role and extent of ALM activities and their relationship with product development, pricing functions and investment management.

#### Requirement 6

is reflected in an explicit investment policy which:

- a. specifies the nature, role and extent of the insurer's investment activities and how the insurer complies with the regulatory investment requirements established in the solvency regime.
- b. establishes explicit risk management procedures within its investment policy with regard to more complex and less transparent classes of asset and investment in markets or instruments that are subject to less governance or regulation.

#### Requirement 7

includes explicit policies in relation to underwriting risk.

45. As part of the required ERM framework, an insurer should describe its policy for managing the risks to which it is exposed, including the processes and methods for monitoring risk. A risk management policy would be expected to include a description of the insurer's policies towards risk retention, risk management strategies including reinsurance and the use of derivatives, diversification/ specialisation and asset-liability management (ALM).
46. An insurer's risk management policy should clearly address the relationship between pricing, product development and investment management in order that product design and pricing and the accompanying investment strategy are appropriately aligned. In particular, investment and product benchmarks may need to be established to ensure that the insurer's financial objectives continue to be met.

47. An insurer's risk management policy should describe how its risk management links with its management of capital (regulatory capital requirement and economic capital). For the purposes of this paper, the term "economic capital" refers to the capital needed by the insurer to satisfy its risk tolerance and support its business plans which is determined from an economic assessment of the insurer's risks, the relationship between them and the risk mitigation in place. This does not necessarily require the use of an economic capital model but implies the use of techniques that are appropriate to the nature, scale and complexity of an insurer's business and risks.
48. As an integral part of its risk management policy, an insurer should also describe how its risk management links with corporate objectives, strategy and current circumstances. A reasonably long time horizon, consistent with the nature of the insurer's risks and the business planning horizon, should be considered by the risk management policy so that it maintains relevance to the insurer's business going forward. This can be done by using methods, such as scenario models, that produce a range of outcomes based on plausible future business assumptions which reflect sufficiently adverse scenarios. The insurer should monitor risks so that the board and senior management are fully aware of the insurer's risk profile and how it is evolving. Where models are used for business forecasting insurers should perform back-testing, to the extent practicable, to validate the accuracy of the model over time.
49. As part of its risk mitigation strategy, an insurer may transfer some of the risk on its own balance sheet to an off-balance sheet structure, such as a special purpose vehicle (SPV). SPVs are generally set up for a specific purpose to meet specific payments to investors, who have accepted the risk profile of their payments based on the cash flows underlying the SPV. The risk remaining with the insurer as a result of the off-balance sheet structure should be managed effectively. For an SPV these may arise as follows:
- Even though the SPV's cash flows are not part of the insurer's balance sheet, the insurer may still face pressure to support the payments out of the SPV during periods of stress, due to reputational damage to the insurer if the payments to the investors are not made.
  - Default by an SPV may cause the insurer reputational damage and affect its ability to raise finance in the future, possibly leading to liquidity issues. In addition, default by an SPV may have implications on the insurer's credit rating, which may further affect the insurer's ability to raise finance in the future.
  - The investment policy of SPV including that for assets transferred from the insurer may differ from the investment policy of the insurer because of differences in capital and risk tolerance. However, the investment strategy adopted by the SPV may have an impact on the insurer's ability to make payments to the policyholders, especially if the SPV is in a stressed position.

50. ALM is the practice of managing a business so that decisions and actions taken with respect to assets and liabilities are coordinated. To co-ordinate the management of risks associated with assets and liabilities, the insurer's risk management policy should include an explicit and proportionate ALM policy which sets out how the investment and liability strategies adopted by the insurer allow for the interaction between assets and liabilities, how the liability cash flows will be met by the cash inflows and how the economic valuation of assets and liabilities will change under an appropriate range of different scenarios. ALM does not imply that assets should be matched as closely as possible to liabilities but that mismatches are effectively managed. Not all ALM needs to use complex techniques. For example, simple, low risk or short term business may call for less complex ALM techniques.
51. The ALM policy should recognise the interdependence between all of the insurer's assets and liabilities and take into account the correlation of risk between different asset classes as well as the correlations between different products and business lines, recognising that correlations may not be linear. The ALM framework should also take into account any off-balance sheet exposures that the insurer may have and the contingency that risks transferred may revert to the insurer.
52. Different strategies may be appropriate for different categories of assets and liabilities. One possible approach to ALM is to identify separate homogeneous segments of liabilities and obtain investments for each segment which would be appropriate if each liability segment was a stand-alone business. Another possible approach is to manage the insurer's assets and liabilities together as a whole. The latter approach may provide greater opportunities for profit and management of risk than the former. If ALM is practised for each business segment separately, this is likely to mean that the benefits of scale, hedging, diversification, and reinsurance that can be gained from managing the different segments of assets and liabilities together are ignored or receive less attention.
53. However, for some types of insurance business it may not be appropriate to manage risks by combining liability segments. It may be necessary for the insurer to devise separate and self-contained ALM policies for particular portfolios of assets that are "ring fenced" or otherwise not freely available to cover obligations in other parts of the company e.g. because of close matching requirements,
54. Assets and liabilities may be ring-fenced to protect policyholders. For example, non-life insurance business is normally ring-fenced from life insurance business, and a separate fund of assets may be used to determine the benefits under participating business. Some assets may be required by regulation or the insurer's risk management policy to be closely matched with corresponding liabilities, for example equity-linked or indexed-linked benefits may be closely matched with corresponding assets, and annuities cash outflows may be closely matched with cash inflows from fixed income instruments.
55. Some liabilities may have particularly long durations, such as product liability insurance<sup>9</sup> and whole-life policies and annuities. In these cases, assets with

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<sup>9</sup> Product liability insurance covers manufacturers, distributors, suppliers, retailers and other who make products available to the public and are held responsible for the injuries those products cause.

sufficiently long duration may not be available to match the liabilities, introducing a significant reinvestment risk, such that the present value of future net liability cash flows is particularly sensitive to changes in interest rates. Many financial markets throughout the world do not have long fixed-income assets to back long duration liabilities. There may also be gaps in the asset durations available. This may be an issue even in the most well developed markets for some types of liabilities. Risks arising from mismatches between assets and liabilities require particular attention. The insurer should give explicit attention within its ALM policy to risks arising from liabilities with substantially longer durations or other mismatches with assets available from the corresponding financial markets to ensure that they are effectively managed by holding adequate capital or having appropriate risk mitigation in place.

56. The insurer's risk management policy should be reflected in an explicit investment policy. Such a policy may, for example, set out the insurer's strategy for optimising investment returns and specify asset allocation strategies and authorities for investment activities and how these are related to the ALM policy. It may also specify how regulatory investment requirements and other parameters are met. More information on regulatory investment requirements is contained in the IAIS *Standard and Guidance on Regulatory Investment Requirements for Solvency Purposes* (October 2010).
57. The insurer's investment policy should outline its policy towards inherently risky financial instruments such as derivatives of various types, hybrid instruments that embed derivatives, private equity, alternative investment funds such as hedge funds, insurance linked instruments and commitments transacted through special purpose vehicles. Consideration of the associated counterparty credit risk should be included in the investment policy. It should also set out the policy for the safe-keeping of assets including custodial arrangements and the conditions under which investments may be pledged or lent.
58. Similarly, explicit consideration should be given by the insurer to assets for which the risk is generally sufficiently assessable to be permitted by the regime but, compared to other investments, are more complex, less transparent, less well regulated in terms of the market regulation that applies to them or less well governed in terms of the processes required to manage them. Such assets may present operational risks in adverse conditions which are difficult to assess reliably. In terms of market regulation, investments in an unregulated market or a market that is subject to less governance such as a professional securities market and investments that are not traded on a public exchange need to be given special consideration.
59. For investment risks in particular, it is important for the insurer to understand the source, type and amount of risk that it is accepting across all lines of business. For example, where there is a complex chain of transactions it should understand who has the ultimate legal risk or basis risk. Similar questions arise where the investment is via external funds, especially when such funds are not transparent.
60. For insurers in many jurisdictions concentration risk arising from the limited availability of suitable domestic investment vehicles is an issue. By contrast, international insurers' investment strategies may be complex because of a need to manage and match assets and liabilities in a number of currencies and different markets. In addition, the need for liquidity resulting from potential large-scale payments may further complicate an insurer's investment strategy.

61. The insurer should have the competencies necessary to manage the instruments it is investing in. For complex investment activities (including underwriting guarantees for such complex securities) robust models of risks that consider all relevant variables may be needed. It is the insurer's responsibility to ensure that the internal expertise and competence necessary are in place at all levels of the organisation to manage these risks effectively including the expertise to apply and vet any models used and to assess them against market convention. Also, an insurer needs explicit procedures to evaluate hidden and non-standard risks associated with complex structured products, especially new forms of concentration risks that may not be obvious.
62. For complex investment strategies, aspects to consider in complex strategies include liquidity and responsiveness to sudden market movements. Stress testing, as well as contingency planning for stressed situations, is essential. Trial operation of procedures for sufficiently long periods may also be appropriate in advance of 'live' operation.
63. For derivatives, for example, there is a wide variation of products. There are also hybrid instruments that embed derivatives such as bonds whose maturity values are tied to an equity index. The insurer's risk management policy should be clear about the purpose of using derivatives and address whether it is appropriate for it to rule out or restrict the use of some types of derivatives where, for example:
- the potential exposure cannot be reliably measured;
  - closing out of a derivative is difficult considering the illiquidity of the market;
  - the derivative is not readily marketable as may be the case with over-the-counter instruments;
  - independent (i.e. external) verification of pricing is not available;
  - collateral arrangements do not fully cover the exposure to the counterparty
  - the counterparty is not suitably creditworthy
  - the exposure to any one counterparty exceeds a specified amount
- These factors are particularly important for 'over-the-counter' derivatives which are not effected or issued on or under the rules of a regulated market. The effectiveness of clearing facilities available may be a relevant consideration in assessing the counterparty risk associated with some types of widely traded 'over-the-counter' derivatives, such as credit default swaps.
64. The risk management policy should also include explicit policies in relation to underwriting risk i.e. the specific insurance risk arising from the underwriting of insurance contracts. Such policies may relate to the underwriting process, pricing, claims settlement both in terms of timing and amount and expense control aspects of managing the risks arising from the insurance contracts the insurer writes. Such policies may include, for example, the terms on which contracts are written and any exclusions, the procedures and conditions that need to be satisfied for risks to be accepted, additional premiums for substandard risks, and procedures and conditions that need to be satisfied for claims to be paid.
65. ALM may be needed to address parts of underwriting risk. The uncertainty of timing and size of future claim payments, especially for long-tail non-life

business, may require coordination with the management of assets under the ALM policy.

66. The insurer should ensure that the underwriting policy pays particular attention to risk retention and risk transfer through reinsurance and other forms of risk transfer as appropriate to the insurer's risk profile and capital. The policy should take account of the effectiveness of risk transfer in adverse circumstances.
67. Expense control is an important part of managing risk especially in conditions of high general rates of inflation. Claims inflation also tends to be high in such conditions for some types of risk. Insurers should therefore have systems in place to control their expenses, including claims handling and administration expenses. These expenses should be monitored by management on an on-going basis.
68. Reinsurance arrangements should be adequate and the claims by the insurer on its reinsurers should be recoverable. This includes ensuring that:
  - the insurer's reinsurance programme provides coverage appropriate to its level of capital, the profile of the risks it underwrites, its business strategy and risk tolerance.
  - the protection provided by the reinsurer is secure. This might be addressed by the insurer by ensuring that the financial strength of the reinsurer is adequate, obtaining collateral (including trusts, letters of credit or funds withheld), limiting exposure to particular reinsurers or holding adequate capital to cover exposure to the risk of reinsurer default. Insurers should perform their own assessment of the financial strength of reinsurers and be careful not to place undue emphasis on external ratings.
  - the effectiveness of the transfer of risk should be assessed for particular risk transfer arrangements to ensure that risk will not revert to the insurer in adverse circumstances. The insurer should review its arrangements if there is a possibility that it will provide support to the reinsurer in such circumstances.

*Additional guidance for insurance groups and insurance legal entities that are members of groups*

69. An insurance group should have a risk management policy which outlines the way in which it manages all the risks that are relevant and material at insurance group level, both in its business strategy and its day-to-day operations and describes the linkage with the group's tolerance limits, regulatory capital requirements, economic capital and the group's processes and methods for monitoring risk. This includes group risk that arises from the insurance group being part of a wider group.

70. The categories of risks covered by the insurance legal entity's risk management policy should include the category comprising all of the additional group risks it faces as a result of its membership of a group. Such risks may arise from the widest group of which the insurance legal entity is a member and not only from its insurance group.

Where an insurance legal entity's risk management policy is an integral part of an insurance group's risk management policy, it is the responsibility of the board and senior management of the insurance legal entity to make sure that the insurance legal entity's risk management policy covers all the risks that are relevant and material at insurance legal entity level and that this policy is clearly defined and understood.

### 3.4 Risk tolerance<sup>10</sup> statement

**The solvency regime requires the insurer:**

**Requirement 8**

**to establish and maintain a risk tolerance statement which sets out its overall quantitative and qualitative risk tolerance levels and defines risk tolerance limits which take into account all relevant and material categories of risk and the relationships between them.**

**Requirement 9**

**to make use of its risk tolerance levels in its business strategy.**

**Requirement 10**

**to embed its defined risk tolerance limits in its day-to-day operations via its risk management policies and procedures.**

71. In parallel with developing its risk management policy, establishing appropriate tools for analysing, assessing, monitoring and measuring risks and identifying its risk exposures, an insurer should establish and maintain a risk tolerance statement. An insurer's overall risk tolerance statement should set out the level of risk to which it is willing and able to be exposed, taking into account its financial strength and the nature, scale and complexity of its business and risks, the liquidity and transferability of its business, and the physical resources it needs to adequately manage its risks.
72. The risk tolerance statement should define the insurer's 'tolerance limits' which give clear guidance to operational management on the level of risk to which the insurer is prepared to be exposed and the limits of risk to which they are able to expose the insurer as part of their work. An insurer should consider how these

<sup>10</sup> In this paper, the term 'risk tolerance' is used to include the active retention of risk that is appropriate for an insurer in the context of its strategy, financial strength, and the nature, scale and complexity of its business and risks.

tolerance limits are to be suitably embedded in its ongoing operational processes. This can be achieved, for instance, by expressing tolerance limits in a way that can be measured and monitored as part of ongoing operations. Stress testing can also provide an insurer with a tool to help ascertain whether its tolerance limits remain suitable for its business.

*Additional guidance for insurance groups and insurance legal entities that are members of groups*

73. An insurance group should establish and maintain a risk tolerance statement based on its strategy which sets out its overall quantitative and qualitative tolerance levels and defines tolerance limits which take into account all categories of risk which are relevant and material to the insurance group and the relationships between them. The insurance group's risk tolerance levels should be actively applied within its ERM framework and risk management policy.

An insurance legal entity's risk tolerance statement should define tolerance limits taking into account the category of risks comprising all of the group risks it faces as a result of membership of a group to the extent that they are relevant and material to the insurance legal entity.

74. Insurance group tolerance limits should give the board and senior management of a member insurance legal entity clear guidance on the level of risk which the insurance group is prepared to take and the limits to which the insurance legal entity is able to expose the insurance group during the course of its business. It is the responsibility of the board and senior management of the insurance legal entity to make sure that their group environment is clearly defined and understood.

### 3.5 Risk responsiveness and feedback loop

**The solvency regime requires:**

**Requirement 11**

**the insurer's ERM framework to be responsive to changes in its risk profile.**

**Requirement 12**

**the insurer's ERM framework to incorporate a feedback loop, based on appropriate and good quality information, management processes and objective assessment, which enables it to take the necessary action in a timely manner in response to changes in its risk profile.**

75. The ERM framework and risk management policy of the insurer should be responsive to change as a result of both internal and external events. The framework should include mechanisms to incorporate new risks and new information on a regular basis. For example, new risks identified from within the business may include new acquisitions, investment positions, or business lines. New information may become available from external sources, as a result of evolution of the environment affecting the nature and size of underlying risks. Supervisory and legislative requirements, rating agency concerns (if applicable), political changes, major catastrophes or market turbulence may all make changes necessary. The framework and policy should also be responsive to the changing interests and reasonable expectations of policyholders and other stakeholders.

76. Within the ERM framework there should also be a 'feedback loop'. This should ensure that decisions made by the board and senior management are implemented and their effect monitored and reported in a timely and sufficiently frequent manner via good management information. The feedback loop is the process of assessing the effect, within the ERM framework, of changes in risk leading to changes in risk management policy, tolerance limits and risk mitigating actions. Without this continual updating process, complemented by explicit one-off changes in response to major events, the ERM framework would not remain relevant in assisting the insurer in meeting its strategic and risk objectives.

*Additional guidance for insurance groups and insurance legal entities that are members of groups*

77. An insurance group's ERM framework should incorporate a feedback loop, based on appropriate and good quality information, management processes and objective assessment, which enables it to take the necessary action in a timely manner in response to changes in its risk profile.
78. Group risk should be included in the feedback loop of the insurance legal entity's ERM framework in respect of the widest group of which it is a member. This means the insurance legal entity should obtain appropriate and good quality information about changes in the group which affect its risk profile. It also means the management of the insurance legal entity should provide information to an insurance group of which it is a member as part of the feedback loop of the insurance group's ERM framework.

#### 4. Own Risk and Solvency Assessment (ORSA)

The solvency regime requires:

**Requirement 13**

**the insurer regularly to perform its own risk and solvency assessment (ORSA) to assess the adequacy of its risk management and current, and likely future, solvency position.**

**Requirement 14**

**the insurer's board and senior management to be responsible for the ORSA.**

**Requirement 15**

**the insurer's ORSA to encompass all reasonably foreseeable and relevant material risks including, as a minimum, underwriting, credit, market, operational and liquidity risks and additional risks arising due to membership of a group. The assessment is required to identify the relationship between risk management and the level and quality of financial resources needed and available.**

79. Every insurer should undertake its own risk and solvency assessment (ORSA) and document the rationale, calculations and action plans arising from this assessment. The ability of an insurer to reflect risks in a robust manner in its own assessment of risk and solvency is supported by an effective overall ERM framework, and by embedding its risk management policy in its operations. It is recognised that the nature of the assessment undertaken by a particular insurer should be appropriate to the nature, scale and complexity of its risks.
80. The prime purpose of the ORSA is to assess whether its risk management and solvency position is currently adequate and is likely to remain so in the future. Responsibility for the ORSA rests at the top level of the insurer's organisation, the insurer's board and senior management. Where it is proportionate to do so, the effectiveness of the ORSA should be assured through internal or external independent overall review by a suitably experienced individual, such as a Chief Risk Officer, who reports directly to or is a member of the Board.
81. In its ORSA an insurer should consider all material risks that may have an impact on its ability to meet its obligations to policyholders, including in that assessment a consideration of the impact of future changes in economic conditions or other external factors. An insurer should undertake an ORSA on a regular basis so that it continues to provide relevant information for its management and decision making processes. The insurer should regularly reassess the causes of risk, and the extent to which particular risks are material. Significant changes in the risk profile of the insurer should prompt it to undertake a new ORSA. Risk assessment should be done in conjunction with consideration of the effectiveness of applicable controls to mitigate the risks.

*Additional guidance for insurance groups and insurance legal entities that are members of groups*

82. Adequate risk management should be in place within an insurance group and should be assessed on a insurance group-wide basis to enhance the assessment of insurance legal entities that are members of the group.
83. An insurance group should perform its ORSA to assess the adequacy of the group's risk management and current, and likely future, solvency position. The nature of the assessment should be appropriate to the nature, scale and complexity of the risks at insurance group level. The risks should include all reasonably foreseeable and relevant material risks arising from every member of the insurance group and from the widest group of which the insurance group is part. The insurance group's ORSA should make sure that there are no material risks of the group that are not captured, that the fungibility of capital and the transferability of assets within the group is taken into account and that capital is not double counted. It is likely to be proportionate for particular care to be given to these aspects for large complex groups.
84. Similarly, the insurance legal entity's ORSA should include all additional risks arising due to membership of the widest group of which it is a part to the extent that they impact the insurance legal entity as appropriate to the nature, scale and complexity of those risks.
85. In both the insurance legal entity's ORSA and the insurance group's ORSA, it may be appropriate to consider scenarios in which a group splits or changes its structure in other ways. Assessment of current capital adequacy and continuity analysis should include consideration of relevant possible changes in group structure and integrity in adverse circumstances and the implications this could have for group risks, the existence of the group and the support or demands from the group to or on its members.
86. Given the level of complexity at insurance group level compared with that at a legal entity level, additional analysis and information is likely to be needed in order to comprehensively address the range of insurance group level risks. It may, for example, be appropriate to apply a contagion test e.g. by using stress testing to assess the impact of difficulties in each legal entity which is a member of the insurance group on the other insurance group entities.

## 4.1 Economic and regulatory capital

**The solvency regime requires:**

**Requirement 16**

**the insurer, as part of its ORSA, to determine the overall financial resources it needs to manage its business given its own risk tolerance and business plans, and to demonstrate that supervisory requirements are met.**

**Requirement 17**

**the insurer to assess the quality and adequacy of its capital resources to meet regulatory capital requirements and any additional capital needs**

**Requirement 18**

**the insurer to base its risk management actions on consideration of its economic capital, regulatory capital requirements and financial resources, including its ORSA.**

87. In the context of its overall ERM framework, an insurer should perform its ORSA and have risk and capital management processes in place to monitor the level of its financial resources relative to its economic capital and the regulatory capital requirements set by the solvency regime.
88. In the context of its own assessment, an insurer should clearly distinguish between current capital needs and its projected future financial position, having regard for its longer-term business strategy and, in particular, new business plans.
89. While holding capital to cover risk is not necessarily the most effective way of managing it, it is important that an insurer has regard for how risk management and capital management relate to and interact with each other. Therefore, an insurer should determine the overall financial resources it needs, taking into account its risk tolerance and business plans, based on an assessment of its risks, the relationship between them and the risk mitigation in place. Determining economic capital helps an insurer to assess how best to optimise its capital base, whether to retain or transfer risk, and how to allow for risks in its pricing. It also helps to give the supervisor confidence that risks are being well managed.
90. Although the amounts of economic capital and regulatory capital requirements and the methods used to determine them may differ, an insurer should be aware of, and be able to analyse and explain, these differences. Such analysis helps to embed supervisory requirements into an insurer's ORSA and risk and capital management, so as to ensure that obligations to policyholders continue to be met as they fall due.

91. As part of the ORSA, the insurer should perform its own assessment of the quality and adequacy of capital resources both in the context of determining its economic capital and in demonstrating that regulatory capital requirements are met having regard to the quality criteria established in the solvency regime and other factors which the insurer considers relevant. The scope of this assessment should be proportionate to the nature, scale and complexity of the insurer's risks. The insurer should also assess the appropriateness of its capital resources in supporting its business strategy and enabling it to continue its operations, with due regard for its longer term business strategy and in particular new business plans.

#### *Re-capitalisation*

92. If an insurer suffers losses that are absorbed by its available capital resources, it may need to raise new capital to meet ongoing regulatory capital requirements and to maintain its business strategies. It cannot be assumed that capital will be readily available at the time it is needed. Therefore, an insurer's own assessment of the quality of capital should also consider the issue of re-capitalisation, especially the ability of capital to absorb losses on a going-concern basis and the extent to which the capital instruments or structures that the insurer uses may facilitate or hinder future re-capitalisation. For example, if an insurer enters into a funding arrangement where future profits are cashed immediately, the reduced future earnings potential of the insurer may make it more difficult to raise capital resources in the future.
93. For an insurer to be able to recapitalise in times of financial stress, it is critical to maintain market confidence at all times, through its solvency and capital management, investor relationships, robust governance structure/practices and fair market conduct practices. For example, where an insurer issues preferred stock without voting rights, this may affect the robustness of the governance structure and practice of that insurer. The voting rights attached to common stock can provide an important source of market discipline over an insurer's management. Other insurers may issue capital instruments with lower coupons and fees, sacrificing the economic value of the existing shareholders and bondholders.
94. When market conditions are good, many insurers should be readily able to issue sufficient volumes of high quality capital instruments at reasonable levels of cost. However, when market conditions are stressed, it is likely that only well capitalised insurers, in terms of both the quality and quantity of capital resources held, will be able to issue high quality capital instruments. Other insurers may only be able to issue limited amounts of lower quality capital and at higher cost. Therefore, supervisors should make sure that insurers have regard for such variations in market conditions and manage the quality and quantity of their capital resources in a forward looking manner. In this regard, it is expected that high quality capital instruments, such as common shares, should form the substantial part of capital resources in normal market conditions as that would enable insurers to issue capital instruments even in stressed situations. Such capital management approaches also help to address the procyclicality issues that may arise, particularly in risk-based solvency regimes.

*Additional guidance for insurance groups and insurance legal entities that are members of groups*

95. An insurance group should determine, as part of its ORSA, the overall financial resources it needs to manage its business given its own risk tolerance and business plans and demonstrate that its supervisory requirements are met. The insurance group's risk management actions should be based on consideration of its economic capital, regulatory capital requirements and financial resources. Economic capital should thus be determined by the insurance group as well as a member insurance legal entity and appropriate risk tolerances and management actions should be identified for both the insurance group and the insurance legal entity.
96. Key group-wide factors to be addressed in the insurer's assessment of group-wide capital resources include multiple gearing, intra-group creation of capital and reciprocal financing, leverage of the quality of capital and fungibility of capital and free transferability of assets across group entities.
97. Multiple gearing may occur if an insurer invests in a capital instrument that counts as regulatory capital of its subsidiary, its parent or another group entity. Multiple gearing may occur if a series of such transactions exist.
98. Intra-group creation of capital may arise from reciprocal financing between members of a group. Reciprocal financing may occur if an insurance legal entity holds shares in or makes loans to another legal entity (either an insurance legal entity or otherwise) which, directly or indirectly, holds a capital instrument that counts as regulatory capital of the first insurance legal entity.
99. Leverage arises where a parent, either a regulated company or an unregulated holding company, issues debt or other instruments which are ineligible as regulatory capital or the eligibility of which is restricted and down-streams the proceeds as regulatory capital to a subsidiary. Depending on the degree of leverage, this may give rise to the risk that undue stress is placed on a regulated entity as a result of the obligation on the parent to service its debt.
100. In the context of a group-wide solvency assessment, excess capital in an insurance legal entity above the level needed to cover its own capital requirements may not always be available to cover losses or capital requirements in other insurance legal entities in the group. Free transfer of assets and capital may be restricted by either operational or legal limitations. Some examples of such legal restrictions are exchange controls in some jurisdictions, surpluses in participating funds of life insurers which are earmarked for the benefit of policyholders, and rights that holders of certain instruments may have over the assets and liabilities of the legal entity. In normal conditions, surplus capital at the top of a group can be down-streamed to cover losses in group entities lower down the chain. However in times of stress such parental support may not always be forthcoming or permitted.

## 4.2 Using an internal model for the ORSA

101. An insurer may consider that the assessment of current financial resources and the calculation of regulatory capital requirements would be better achieved through the use of internal models. More information on the use of internal models in meeting regulatory capital requirements and the supervisory approval required can be found in the IAIS *Standard and Guidance paper on the use of internal models for regulatory capital purposes* (October 2010).
102. Where an internal model is used for the ORSA, it is likely to be an important strategic and operational decision-making tool and to be most useful if it enables the insurer to integrate its risk and capital management processes; that is, assisting with both the assessment of the risks faced within its business and the determination of the economic capital needed, where appropriate, to meet those risks.
103. An ERM framework should address all reasonably foreseeable and relevant material risks the insurer faces in accordance with a properly constructed risk management policy. To be most effective, therefore, an internal model used for the ORSA needs to address all those identified risks and assess their impact on the insurer's business given the possible situations that could occur. The risks to be considered should include underwriting risk, credit risk, market risk, operational risk and liquidity risk (including any significant risk concentrations). The categories of risks considered should be clearly defined. The methods by which this analysis could be conducted range from simple stress testing of events to more complex interlocking stochastic modelling as appropriate to the nature, scale and complexity of the risks concerned<sup>11</sup>.
104. When used for the ORSA, the insurer's internal model is likely to be calibrated on the basis of defined modelling criteria which the insurer believes will determine the level of capital appropriate and sufficient to meet its business plan and strategic objectives. These modelling criteria are likely to include the basis for valuation of the assets and liabilities, and the confidence level, risk measure, and time horizon which the insurer considers appropriate to its risk tolerance and business plans. An insurer is likely to consider various factors in order to determine the modelling criteria used to determine its economic capital; for example choosing a level to achieve a certain investment rating, or to meet other business objectives.
105. In constructing its internal model for the ORSA, an insurer is likely to adopt risk modelling techniques and approaches appropriate to the nature, scale and complexity of the risks incorporated within its risk strategy and business objectives. An insurer may consider various inputs to the modelling process, such as economic scenarios, asset portfolios and liabilities from in-force or past business<sup>12</sup>. It is likely that the modelling criteria and the various inputs to the modelling would be established in the context of the insurer continuing to operate on a going concern basis (unless the insurer is in financial difficulty).

<sup>11</sup> See IAIS *Guidance paper on stress testing by insurers* (October 2003).

<sup>12</sup> It may also consider regulatory constraints on the application and transfer of assets, e.g. in jurisdictions where insurers are required to segregate the assets backing the liabilities of different classes of insurance into separate funds and where the transfer of assets between funds is restricted by regulations.

106. An internal model used in the ORSA to determine the economic capital enables the insurer to allocate sufficient financial resources to ensure it can continue to meet its policyholder liabilities as they fall due, at a confidence level appropriate to its business objectives. To fully assess policyholder liabilities in this way, all liabilities that need to be met to avoid putting policyholder interests at risk need to be considered, including any liabilities for which a default in payment could trigger the winding up of the insurer.
107. An internal model used by an insurer in the context of its ORSA for determining its own economic capital needs should not need supervisory approval for that purpose. However, an insurer would be expected to review its own internal model and validate it so as to satisfy itself of the appropriateness of the model for use as part of its risk and capital management processes<sup>13</sup>. It would be expected to calibrate the model according to its own modelling criteria. As well as internal review, the insurer may wish to consider an external review of its internal model by appropriate specialists e.g. if the internal review does not have an appropriate level of independence or the insurer's management wishes to have greater assurance about the validity of the model than can be provided by an internal review.

*Additional guidance for insurance groups and insurance legal entities that are members of groups*

108. An insurance group may consider that the assessment of financial resources and the calculation of regulatory capital requirements would be better achieved through the use of internal models to enable the range of risks, and their scale and complexity to be effectively assessed. More information on the use of internal models in meeting regulatory capital requirements and the supervisory approval required can be found in the IAIS *Guidance paper on the use of internal models for regulatory capital purposes (October 2010)*.
109. Regardless of the approach used by an insurance group for regulatory capital purposes, the IAIS considers that all insurance legal entities and insurance groups of which they are members should be undertaking their own risk and solvency assessments (ORSA). To carry out its ORSA, an insurance group should apply a methodology that is best suited to the nature, scale and complexity of the risk profile of its business. Although, this does not necessarily imply the use of internal models for this purpose, the nature of the risks may be more diverse and the scale and complexity of the business and risks of an insurance group may be greater than that of its member legal entities. It may therefore be appropriate for internal models to be used for the group's ORSA even where the use of an internal model is not a proportionate approach for its members.

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<sup>13</sup> Validation would be expected to be carried out by a different department or personnel to those that created the internal model to facilitate independence, where proportionate to do so.

### 4.3 Continuity analysis

**The solvency regime requires:**

**Requirement 19**

**the insurer, as part of its ORSA, to analyse its ability to continue in business, and the risk management and financial resources required to do so over a longer time horizon than typically used to determine regulatory capital requirements.**

**Requirement 20**

**the insurer's continuity analysis to address a combination of quantitative and qualitative elements in the medium and longer-term business strategy of the insurer and include projections of its future financial position and analysis of its ability to meet future regulatory capital requirements.**

110. An insurer should be able to demonstrate an ability to manage its risk over the longer term under a range of plausible adverse scenarios. An insurer's capital management plans and capital projections are therefore key to its overall risk management strategy. These should allow the insurer to determine how it could respond to unexpected changes in markets and economic conditions, innovations in the industry and other factors such as demographic, legal and regulatory, medical and social developments.
111. Where it is proportionate to do so, supervisors should require an insurer to undertake periodic, forward-looking continuity analysis and modelling of its future financial position including its ability to continue to meet its regulatory capital requirements in future under various conditions. Insurers should ensure that the capital and cash flow projections (before and after stress), and the management actions included in their forecasts, are approved at a sufficiently senior level.
112. In carrying out its continuity analysis, the insurer should also apply reverse stress testing to identify scenarios that would be the likely cause business failure (e.g. where business would become unviable or the market would lose confidence in it) and the actions necessary to manage this risk. (See also paragraph 36).
113. As a result of continuity analysis, supervisors should encourage insurers to maintain contingency plans and procedures for use in a going and gone concern situation. Such plans should identify relevant countervailing measures and off-setting actions they could realistically take to restore/improve the insurer's capital adequacy or cashflow position after some future stress event and assess whether actions should be taken by the insurer in advance as precautionary measures.

114. A clear distinction should be made between the assessment of the current financial position and the projections, stress testing and scenario analyses used to assess an insurer's financial condition for the purposes of strategic risk management including maintaining solvency.<sup>14</sup> Continuity analysis helps to ensure sound, effective, and complete risk management processes, strategies and systems. It helps to assess and maintain on an ongoing basis the amounts, types and distribution of financial resources needed to cover the nature and level of the risks to which an insurer is or might be exposed and to enable the insurer to identify and manage all reasonably foreseeable and relevant material risks. In doing so, the insurer assesses the impact of possible changes in business or risk strategy on the level of economic capital needed as well as the level of regulatory capital requirements.
115. Such continuity analysis should have a time horizon needed for effective business planning, for example 3 to 5 years, which is longer than typically used to determine regulatory capital requirements<sup>15</sup>. It should also place greater emphasis than may be considered in regulatory requirements on new business plans and product design and pricing, including embedded guarantees and options, and the assumptions appropriate given the way in which products are sold. The insurer's current premium levels and strategy for future premium levels are a key element in its continuity analysis. In order for continuity analysis to remain most meaningful, an insurer should also consider changes in external factors such as possible future events including changes in the political or economic situation.
116. Through the use of continuity analysis an insurer is better able to link its current financial position with future business plan projections, and ensure its ability to maintain its financial position in the future. In this way the insurer further embeds its enterprise risk management into its ongoing and future operations.
117. An internal model may also be used for the continuity analysis allowing the insurer to assess the capital consequences of strategic business decisions in respect of its risk profile. For example, the insurer may decide to reduce its exposure to certain risks by writing different types of business, in order to reduce the capital that is needed to be held against such risks, potentially freeing up resources for use elsewhere. This process of capital management enables the insurer to change its capital exposure as part of its long-term strategic decision making.
118. As a result of such strategic changes, the risk profile of an insurer may alter, so that different risks need to be assessed and quantified within its internal model. In this way, an internal model may sit within a cycle of strategic risk and capital management, and provides the link between these two processes.

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<sup>14</sup> The scenarios used for such assessments may be determined by the insurer or the supervisor. Refer to the IAIS *Guidance paper on stress testing by insurers* (October 2003).

<sup>15</sup> The comparison with the time horizon for determining regulatory capital requirements is with the defined time horizon over which the level of safety is specified or 'shock period' as described in the IAIS *Standard and Guidance paper on the structure of regulatory capital requirements* (October 2008).

*Additional guidance for insurance groups and insurance legal entities that are members of groups*

119. An insurance group should also analyse its ability to continue in business, and the risk management and financial resources it requires to do so. The insurance group's analysis should consider its ability to continue to exist as an insurance group, potential changes in group structure, and the ability of its members to continue in business.

An insurance legal entity's continuity analysis should analyse the ongoing support from the group including the availability of financial support in adverse circumstances as well as the risks that may flow from the group to the insurance legal entity. Both the insurance legal entity and an insurance group of which it is a member should thus take into account the business risks they face including the potential impact of changes in the economic, political and regulatory environment.

120. In their continuity analysis, insurance groups should pay particular attention to intra-group cashflows i.e. whether the insurance group will have available cashflows (e.g. from surpluses released from long-term funds, dividends from other subsidiaries, etc.) and whether they will be transferable among group member entities to cover any payments of interest or capital on loans, to finance new business, and to meet any other anticipated liabilities as they fall due. Insurance groups should outline what management actions they would take to manage the potential cashflow implications of a stress scenario (e.g. reducing new business, cutting dividends, etc).
121. The insurance group's continuity analysis should also consider the distribution of capital in the insurance group after stress and the possibility that subsidiaries within the insurance group may require recapitalisation (either due to breaches of local regulatory requirements, a shortfall in economic capital, or for other business reasons). The assessment should consider whether sufficient sources of surplus and transferable capital would exist elsewhere in the insurance group, and identify what management actions might need to be taken (e.g. intra-group movements of resources, other intra-group transactions or group restructuring).
122. The insurance group should also apply reverse stress testing to identify scenarios that are likely cause business failure within the insurance group and the actions necessary to manage this risk. (See paragraph 37)

## 5. Role of supervision in risk management

### Requirement 21

**The supervisor undertakes reviews of an insurer's risk management processes and its financial condition, including the ORSA. Where necessary, the supervisor requires strengthening of the insurer's risk management, solvency assessment and capital management processes.**

123. The output of an insurer's ORSA should serve as an important tool in the supervisory review process by helping the supervisor to understand the risk exposure and solvency position of the insurer.
124. The insurer's ERM framework and risk management processes (including internal controls) are critical to solvency assessment. Supervisors should therefore assess the adequacy and soundness of the insurer's framework and processes by receiving the appropriate information, including the ORSA regularly. However, company operations are primarily the responsibility of the board and senior management and the board and management need to be able to exercise their own discretion or business judgment to carry out these responsibilities.
125. Supervisors should review an insurer's internal controls and monitor its capital adequacy, requiring strengthening where necessary. Where internal models are used to calculate the regulatory capital requirements particularly close interaction between the supervisor and insurer is important. In these circumstances, the supervisor may consider the insurer's internal model, its inputs and outputs and the validation processes, as a source of insight into the risk exposure and solvency position of the insurer.
126. Supervisors should suitably monitor the techniques employed by the insurer for risk management and capital adequacy assessment, and intervene where weaknesses are identified. Supervisors should not take a 'one-size-fits-all' approach to insurers' risk management but base their expectations on the nature, scale and complexity of its business and risks. In order to do this, supervisors need to ensure they have sufficient and appropriate resources and capabilities. Supervisors may, for instance, have a risk assessment model or programme with which they can assess their insurers' overall condition (e.g. risk management, capital adequacy and solvency position) and ascertain the likelihood of insurers breaching their regulatory requirements. Supervisors may also prescribe minimum aspects that an ERM framework should address.
127. Supervisors should require appropriate information on risk management and risk and solvency assessments from each insurer they regulate. This not only provides supervisors with a long-term assessment of capital adequacy to aid in their assessment of insurers, but encourages insurers to use risk management effectively. This could also be achieved by, for instance, a supervisor requiring or encouraging insurers to provide a solvency and financial condition report. Such a report could include a description of the relevant material categories of risk that the insurer faces, its overall financial resource needs including its economic capital and regulatory capital requirements as well as the capital available to meet these requirements, and projections of how such factors will develop in future. Where, after appropriate request from the supervisor, an insurer fails to report adequate information about its risk and capital management practices, processes and procedures from which the supervisor can monitor the insurer, the supervisor should intervene or apply penalties appropriately. In addition, an insurer should have a duty to report a breach in regulatory requirements to the supervisor as soon as it occurs.
128. Supervisors should require the results of the most material risk modelling, stress testing and scenario analysis and the key assumptions underlying them to be reported to them as appropriate and proportionate, and have access to all other results if requested. Where a supervisor considers that the calculations conducted by an insurer should be supplemented with additional calculations, it should be able to require the insurer to carry out those additional calculations.

Where the supervisor considers that the insurer's response to the results of its risk modelling, stress testing and scenario testing are insufficient it should be able to direct the insurer to develop a more appropriate response. Supervisors should also consider available reverse stress tests performed by insurers where they wish to satisfy themselves that appropriate action is being taken to manage the risk of business failure.

129. While insurers should carry out stress testing and scenario analysis and risk modelling that are most appropriate for their businesses, supervisors may also develop prescribed or standard tests and require insurers to perform them when circumstances are appropriate. One purpose of such testing may be to improve consistency of testing among a group of similar insurers. Another purpose may be to assess the financial stability of the insurance market to economic or market stresses or other stresses that apply to a number of insurers simultaneously such as pandemics, or major catastrophes. Such tests may be directed at selected insurers or all insurers. The criteria for scenarios used for standard tests should be developed as appropriate to the risk environment of insurers in each jurisdiction.
130. Forward-looking stress testing, scenario analysis and risk modelling of future capital positions and cash flows whether provided by the insurer's own continuity analysis or in response to supervisory requirements is a valuable tool for supervisors in assessing the financial condition of insurers. Such testing informs the discussion between supervisors and insurers on appropriate planning, risk management and management actions and enables supervisors to consider the dynamic position of insurers and form a high-level assessment of whether the insurer is adequately capitalised to withstand a range of standardised and bespoke stresses.
131. Supervisors may use insurers' continuity analyses to increase the attention insurers pay to the robustness of their future financial position, the information on which they base decisions and their contingency planning. Such information enables supervisors to assess whether insurers should improve their enterprise risk management by taking additional countervailing measures and off-setting actions, either immediately, as a precautionary measure, or including them in future plans so as to reduce any projected financial inadequacies, improve cash flows and increase their ability to restore their capital adequacy after stress events.
132. While an insurer may itself decide to hold additional capital or reduce its risks as a direct result of its continuity analysis as well as taking other management actions, the analysis should not of itself be used as a basis for increasing current regulatory capital requirements/solvency control levels.

133. Publicly disclosing information on risk management should work towards the IAIS's objective of improving the transparency and comparability of existing solvency regimes. The IAIS supports the need for balance regarding the level of information to disclose about an insurer's risk management whilst producing sufficient information for external and internal stakeholders which is useful and meaningful. Therefore, the IAIS recognises that the requirements for public disclosure of information on risk management, including possible disclosure of elements of a solvency and financial condition report, should be carefully considered by supervisors taking into account the proprietary nature of the information, whether it is commercially sensitive and the potential for its publication to have adverse effects on insurers.
134. Where an insurer's risk management practices and processes are not considered adequate by the supervisor, the supervisor should use its supervisory powers to take appropriate action. This could be in the form of further supervisory reporting or additional qualitative and quantitative requirements arising from the supervisor's assessment<sup>16</sup>. However, additional quantitative requirements should only be applied in appropriate circumstances and subject to a transparent framework. If routinely applied, such measures may undermine a consistent application of standardised approaches to regulatory capital requirements.
135. Conversely, an insurer that manages its risks and capital well should be recognised and the level of supervision adapted to be commensurate with a risk-based supervisory approach. This does not necessarily mean a low level of supervision, but a level of supervision appropriate to the level of risk to which the insurer is exposed and its ability to manage the risks. An insurer's effective management of risk and capital does not necessarily mean the use of complex internal models, but a degree of risk management appropriate to the nature, scale and complexity of the insurer's risks. Importantly, risk sensitive regulatory financial requirements should provide the incentive for optimal alignment of the insurer's risk and capital management and regulatory requirements.

*Additional guidance for insurance groups and insurance legal entities that are members of groups*

136. The group-wide supervisor should undertake reviews of the risk management processes and financial condition of the insurance group. Where necessary, the group-wide supervisor should use its powers to require strengthening of the insurance group's risk management, solvency assessment and capital management processes, as appropriate to the nature, scale and complexity of risks at group level. . The group-wide supervisor should inform the insurance legal entity supervisors of any action required.

The supervisory review of an insurance legal entity's risk management processes and its financial condition should include group risks.

137. In particular, the supervisors involved should understand and assess the sources of risk, including emerging new risks to the insurance group and to insurance legal entities from any non-regulated entities within the group. Risk mitigation measures should be considered as possible response in treatment of non-regulated entities where a proper assessment is not possible or non-

<sup>16</sup> More information on forms of appropriate supervisory actions can be found in the IAIS *Standard and Guidance paper on capital adequacy for regulatory solvency purposes* (October 2010).

regulated entities threaten policyholder protection significantly. For example, the relevant supervisor could, where legally possible, forbid distribution of dividends to holding companies, issuance of new guarantees, or new participations in non-regulated entities. Such measures may also involve ring fencing, such as portfolio transfers to a more remote legal insurance entity in the group.

138. Questions the group-wide supervisor should consider when assessing the soundness, appropriateness and strengths and weaknesses of the insurance group ERM framework include, but are not be confined to:
- How well is the group's ERM framework tailored to the group?
  - Are decisions influenced appropriately by the group's ERM framework outputs?
  - How responsive is the group's ERM framework to changes in individual businesses and to the group structure?
  - How does the framework bring into account intra-group transactions, risk mitigation and constraints on fungibility of capital/ transferability of assets/liquidity?
  - What is the allocation of responsibilities for ERM in the group and what oversight is given of any outsourcing?
  - What are the internal control systems and audit trails?
  - What modelling and stress testing is done and how is modelling risk managed?
139. The group-wide supervisory review and assessment of the insurance group's ERM framework should consider the framework's soundness and appropriateness and identify its strengths, weaknesses and suitability as a basis for group-wide solvency assessment. The arrangements for managing conflicts of interest across a insurance group should be a particular focus in the supervisory review and assessment of a insurance group's ERM framework. In general, a insurance group's ERM framework is likely to provide more reassurance to supervisors if it incorporates both 'top-down' and 'bottom-up' approaches.
140. The soundness of the insurance group ERM framework may be a factor in the supervisory assessment of the risks to which the insurance group and its member insurance legal entities members are subject. This may in turn affect the level of capital that the insurance group is required to hold for regulatory purposes and any regulatory restrictions that are applied e.g. in terms of the recognition of diversification across the insurance group, the allowances made for operational risk and the allocation of capital within the insurance group.
141. Although it is not a requirement in general for an insurance legal entity or an insurance group to use internal models to carry out its ORSA, it may be considered appropriate by the supervisor in particular cases that the ORSA should use internal models in order to achieve a sound ERM framework. The effectiveness of an insurance group's ORSA may be affected by the degree of integration of its internal capital models, the extent to which it takes into account constraints on fungibility of capital and its ability to model changes in its structure, the transfer of risks around the insurance group and insurance group

risk mitigation. These factors should be taken into account by the group-wide supervisor in its review of the insurance group's ORSA.

142. In considering the insurance group's financial position, the group-wide supervisor should review the insurance group's ORSA, including its continuity analysis. In addition, supervisors may wish to specify criteria or analyses that should form part of the supervisory risk assessments so as to achieve effective supervision and consistency across groups. This may, for example, include prescribed stress tests that apply to insurance groups that are regarded as particularly important in terms of meeting supervisory objectives.

Appendix Two:  
Bermuda CISSA Report

**APPENDIX A: CISSA RETURN (CLASS 4 AND 3B INSURERS).**

<b>CISSA CAPITAL SUMMARY (TABLE 8)</b>			
<p>CLICK BUTTON TO NAVIGATE                      Sample Company                      expressed in [ '000s] (currency used (vide Reg. 10(2))</p>			
<p>Note: Documents supporting the CISSA filing should be retained for such period as specified in the [Order]</p>			
	Projected Target Economic Capital	Projected Economic Capital at 99.0% TVaR	Projected Economic Capital at 99.95% TVaR
<b>CAPITAL</b>			
Catastrophe risk	-	-	-
Reserve risk	-	-	-
Premium risk	-	-	-
Market risk	-	-	-
Credit risk	-	-	-
Liquidity risk	-	-	-
Operational risk	-	-	-
Group, Reputational and Strategic risk	-	-	-
Other (specify)			
<b>Total capital pre-diversification between risk categories</b>	-	-	-
<b>Diversification credit between risk categories</b>			
<b>Total capital after diversification between risk categories</b>	-	-	-
<b>ADDITIONAL INFORMATION</b>			
<p>1 What is the primary reason(s) (select multiple responses where applicable) for aiming at the disclosed Projected Target Economic Capital amount?                      (select all that apply by choosing Yes/No )</p> <p> <input type="checkbox"/> Target agency rating (e.g. "A-", "AA", etc)  <input type="checkbox"/> Market share  <input type="checkbox"/> Business expansion  <input type="checkbox"/> Nature of product(s) (e.g. risk characteristics)  <input type="checkbox"/> Manage downgrade risk                      Others (briefly describe)  <input style="width: 100%;" type="text"/> </p>			
<p>2 What methodology is used to aggregate the risk categories? <input style="width: 300px;" type="text"/></p> <p>Others (list)  <input style="width: 100%;" type="text"/></p>			
<p>3 Does the Company have sufficient capital and liquidity based on its CISSA to achieve its medium and long-term (e.g. 2 to 5 years, etc.) strategic objectives? <input style="width: 150px;" type="text"/></p> <p>If no, briefly describe the potential adverse consequences.  <input style="width: 100%;" type="text"/></p>			

## CISSA CAPITAL SUMMARY (TABLE 8), Cont'd

4 What contingency plans are in place for raising additional capital under stress situations? (select all that apply by choosing Yes/No)

- Parental guarantees
- Revolving letters of credit
- Issue subordinated debt
- Issue preference shares
- Float additional shares
- Capital injections from parent
- Contingent surplus notes
- Catastrophe derivatives (e.g. bonds, swaps and options)

Others (briefly describe)

5 Does the Company have arrangements/ contractual commitments to provide support to affiliates/other companies in stressed situations?

If yes, briefly describe the arrangement(s) and the aggregate exposure.

6 Does the Company have assets, above those that are encumbered (to support regulatory capital requirements and policyholder obligations) at the subsidiary level, that are not fungible and transferable?

If yes, provide details and briefly describe how these have been reflected in the CISSA.

7 Has the Company engaged in multiple gearing?

If yes, provide details and amount of capital .

8 Briefly provide a narrative surrounding actual business continuity/disaster plans in place and any disaster mitigation and monitoring.

9 Was the CISSA return reviewed and approved by the Board of Directors?

Signatory:

Print Name:

Resident Director

Date:

Signatory:

Print Name:

Director

Date:

Insurer Name:

[CLICK BUTTON TO NAVIGATE](#)

## CISSA GENERAL QUESTIONS (TABLE 8A)

Sample Company  
December 31, 20xx

The Company is to review the following statements and select "Yes" or "No" from the drop-down list as applicable.

- 1 Is the CISSA and its underlying information integrated (i.e. considered when making key strategic decisions) into the Company's strategic and risk management decision-making processes?

If Yes, how is CISSA and its underlying information used? (select all that apply by choosing Yes/No )

Strategic planning	
Annual business planning	
Setting risk limits	
Defining risk appetite	
Evaluation of capital adequacy	
Allocation of capital to business segments and lines of business	
Capital management	
Determination of rates of return for pricing and underwriting guidelines	
Reinsurance purchase	
Determination of investment policies and strategies	
Meeting regulatory requirements	
Improving credit rating	
Improving investor relations	
Assessing risk adjusted product profitability	
Performance measurement and assessment	
Improving mergers and acquisition decisions	

Others (list)

### Concentration Risk:

2 Questions	Yes/No
a) Is there a potential for the Company to have an accumulation of losses to material lines of business outside of the property catastrophe line arising from the following that could threaten its solvency?	
<p>If yes, what are the potential cause(s) of the accumulation of losses?</p> <p>A severe event</p> <p>Series of many small events or individual claims</p> <p>Over concentration of exposure to one product</p> <p>Over concentration to one source of business</p> <p>Over concentration to one line of business</p> <p>A common cause across many underwriting years (e.g. asbestos, pollution, silicon etc.)</p> <p>Others (list)</p>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
b) Does the Company have absolute limitations set on individual policies or groups of policies to avoid threatening its solvency (such as limitations on a geographical basis, product basis, line of business basis, source of business basis, etc)?	
<p>If yes, are the limitations assessed for reasonableness and effectiveness in reducing the threat to solvency?</p>	
c) Does the Company purchase reinsurance to mitigate the risk of accumulated losses?	
d) Does the Company have procedures in place to assess the adequacy of the reinsurance purchased both from a severity and frequency perspective for solvency purposes?	
e) Does the Company have procedures in place to ensure that there are no significant mismatches between the policies issued by the Company and the reinsurance programme (e.g. a company may have basis risk from catastrophe bonds, industry loss warranties, etc)?	
f) Does the Company have access to additional capital and surplus to cover loss and loss adjustment expenses (e.g., letters of credit, parental guarantees, other contingent capital sources, etc)?	

## CISSA GENERAL QUESTIONS (TABLE 8A), Cont'd

### Related Business:

3	<b>Question</b>	<b>%</b>
	What percentage of the gross premiums written covers a related policyholder?	

Optionally, the Company may provide additional comments to support its responses under questions 2 and 3 above:

4 Model(s)/tool(s) used to calculate the Projected Target Economic Capital

<b>Governance</b>	<b>Select</b>	<b>Comments</b>
Does the Board of Directors, chief and senior executives approve the design, maintenance and use of the model(s)/tool(s)?		
How often does the Board or relevant Board committees review outputs, changes and issues arising from the model(s)/tool(s) (review should be documented e.g. minutes, presentations etc)?		
Does the Board and chief and senior executives have a thorough understanding of the key assumptions/elements and the implications of the outputs (including limitations) of the model(s)/tool(s)?		
<b>Validation</b>	<b>Select</b>	<b>Comments</b>
Is the model(s)/tool(s) subject to a regular cycle of validation, which includes the monitoring of performance, review appropriateness of model specifications and testing of forecast results against actual results?		
How often is the validation of the model(s)/tool(s) performed?		
Does the validation process demonstrate that the model(s)/tool(s) remains suitable during changing conditions (e.g. changes in inflation, interest rate, etc)? If no, provide comments.		
<b>Documentation</b>	<b>Select</b>	<b>Comments</b>
Does the Company have formal documentation of the structure, design, operational details, input assumptions, parameters, governance process and controls of the model(s)/tool(s)?		
If yes, to what extent is the model(s)/tool(s) documented such that it can be used by new personnel with limited user experience? (include comments for partial or no documentations)		
How often does the Board of Directors or chief and senior executives review and approve the model/input documentation?		
<b>Internal controls</b>	<b>Select</b>	<b>Comments</b>
How does the Company rate the effectiveness of the controls in place to monitor and evaluate the operation and maintenance of the model(s)/tool(s)?		
Are there strict protocols in place restricting access to the model(s)/tool(s) and ability to make adjustments thereto?		
<b>Others</b>	<b>List</b>	
What is the risk measure (VaR, TVaR etc), confidence interval (95%, 99.95% etc) and time horizon (1 year, 3 years etc)?		

## CISSA GENERAL QUESTIONS (TABLE 8A), Cont'd

5 The Company's risk appetite (i.e. the amount of capital the Company is willing to lose in any single event or a series of events over a defined period).

a) How does the Company define its risk appetite?

b) How does the Company measure its risk appetite?

c) What are the limits imposed and how are the limits enforced?

d) How often does the Company monitor/review adherence to the risk appetite (e.g. adherence to limits set )?   
Others (briefly explain)

6 Has the Company applied reverse stress testing to both identify the scenarios that could cause business failure and the required actions to manage such situations?

7 Is the CISSA process clearly documented and regularly amended for changes in strategic direction, risk management framework, and market developments?

Optionally, the Company may provide brief comments.

8 How often is the information underlying CISSA discussed and reviewed by the Board and chief and senior executives?

Others, briefly explain.

9 Has the Board of Directors and chief and senior executives ensured that an appropriate oversight process is in place, including an appropriate level of independent verification, whereby material deficiencies are reported on a timely basis and suitable actions taken?

Optionally, the Company may provide brief comments.

10 What are the key risks that the Company faces over the course of the next 2 to 3 years, and the steps taken (if any) to manage/address these key risks? (list the risks and the steps to address the risks ).

## CISSA GENERAL QUESTIONS (TABLE 8A), Cont'd

11 Briefly describe the Company's governance structure including the:

Attach file

- i) The structure of the board of directors and executive management, including roles and work experience of officers.
- ii) The terms of reference of the board of directors and its sub-committees.

12 Provide details of material intra-group exposures between the Company and other members of the group to which it belongs.

Attach file

- a. The details of the intra-group transactions would include (where applicable):
  - i. Exposure value (face value or market value, if the latter is available);
  - ii. Counterparties involved including where they are located;
  - iii. Summary details of the transaction – including purpose, terms, transaction costs etc.;
  - iv. Duration of the transaction; and
  - v. Performance triggers.
- b. The details surrounding reinsurance and retrocessions arrangements would cover:
  - i. Aggregated values of the exposure limits (gross and net) by counterparties, broken down by counterparty rating;
  - ii. Aggregated premium flows between counterparties (gross and net); and
  - iii. The proportion of the Company's business exposure covered by internal reinsurance, retrocession and other risk transfer arrangements.

*Note: materiality with regards to intra-group transactions will be defined as follows:*

- i. an intra-group transaction whose impact can cause a reduction in the Company's available statutory capital & surplus by 5% or more; and*
- ii. a series of linked intra-group transactions that can cumulatively reduce a Company's available capital & surplus by 10% or more.*
- iii. Qualitative risk characteristics of the transaction: for example, a transaction may be assessed as high risk; however, the quantitative impact remains unknown.*

13 Briefly describe the risk management program including:

Attach file

- i) How the risk management program is used for strategic management decision making, capital allocation and capital adequacy;
- ii) The governance surrounding the risk management process including the identification of the owners of the process and the extent of the board of directors involvement; and
- iii) A description of the process undertaken to monitor material risk concentration.

14 Provide a risk register analysis disclosing:

Attach file

- i) A description of the Company's material risks;
- ii) Owners of the respective risks;
- iii) The impact and probability of the risk and the overall risk assessment;
- iv) A summary of risk mitigation/controls in place and an assessment of their effectiveness in reducing the probability and/or impact of the risk; and
- v) Overall assessment of the impact and probability of the residual risk.

**CISSA CATASTROPHE RISK (TABLE 8B)**

[CLICK BUTTON TO NAVIGATE](#)

December 31, 20xx

Risk owner (title)

Qualifications:

Responsibilities (summary)

**PROJECTED TARGET ECONOMIC CAPITAL**

1 What is the primary model(s)/tool(s) used to calculate the Projected Target Economic Capital for Catastrophe risk?

Others (list)

2 What are the primary sources of data inputs for the model(s)/tool(s) used for Catastrophe risk (e.g. Company's historical data, brokers, etc)?

3 What are the key assumptions used ( e.g. assumed correlation considerations and the diversification benefits, discount rate, etc) to determine the Catastrophe risk?


4 What are the main drivers for the Company's Catastrophe risk?

(select all that apply by choosing Yes/No )

- US earthquake
- European windstorm
- Japanese earthquake
- Japanese typhoon
- Terrorism

Others (list)

5 What are the main limitations of the model(s)/tool(s) used for Catastrophe risk and how are these limitations addressed?

**CISSA CATASTROPHE RISK (TABLE 8B), Cont'd**

**PROJECTED TARGET ECONOMIC CAPITAL**

6 Provide details of stress and scenario testing performed for Catastrophe risk, include the key assumptions and the quantitative results of the tests.

Details of stress and scenario tests		Key assumptions/sensitivities	Quantitative impact of stress test on capital and surplus
			Amounts in (US \$)
a			
b			
c			
d			
e			

7 What risk mitigation/transfer techniques does the Company have in place to address Catastrophe risk (e.g. reinsurance, catastrophe bonds)?

List


	Pre-diversification	Diversification benefit	Post-diversification
8 Projected Target Economic Capital for Catastrophe risk	<input type="text"/>	<input type="text"/>	<input type="text"/>

**PROJECTED ECONOMIC CAPITAL AT 99.0% TOVAR (over 1 year time horizon)**

9 Projected Economic Capital at 99.0% TVaR for Catastrophe risk	<input type="text"/>	<input type="text"/>	<input type="text"/>
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**PROJECTED ECONOMIC CAPITAL AT 99.95% TVAR (over 1 year time horizon)**

10 Projected Economic Capital at 99.95% TVaR for Catastrophe risk	<input type="text"/>	<input type="text"/>	<input type="text"/>
---	----------------------	----------------------	----------------------

11 Explain the primary reason(s) for any material deviations between the Projected Target Economic Capital at 99% TVaR calculated for Catastrophe risk and the same capital charge in the Bermuda Solvency Capital Requirement (material being difference exceeding 10%).

--

## CISSA RESERVE RISK (TABLE 8C)

Sample Company  
December 31, 20xx

Risk owner (title)

Qualifications:

Responsibilities (summary)

### PROJECTED TARGET ECONOMIC CAPITAL

1 What is the primary model(s)/tool(s) used to calculate the Projected Target Economic Capital for Reserve risk?

Others (list)

2 What are the primary sources of data inputs for the model(s)/tool(s) used for Reserve risk (e.g. Company's historical data, industry data, Onesource, NCCI, ISO etc)?

3 What are the key assumptions used ( e.g. assumed correlation considerations and the diversification benefits, etc) to determine the Reserve risk?


4 What are the main drivers for the Company's Reserve risk?

(select all that apply by choosing Yes/No )

- Inflation  
 Correlation of lines of business  
 Legislative and regulatory changes  
 Loss trend movements  
 Timing and reporting changes at underlying ceding company

Others (list)

5 What are the main limitations of the model(s)/tool(s) used for Reserve risk and how are these limitations addressed?

## CISSA RESERVE RISK (TABLE 8C), Cont'd

### PROJECTED TARGET ECONOMIC CAPITAL

6 Provide details of stress and scenario testing performed for Reserve risk, include the key assumptions and the quantitative results of the tests.

Details of stress and scenario tests		Key assumptions/sensitivities	Quantitative impact of stress test on capital and surplus
			Amounts in (US \$)
a	e.g. the impact of 40% deterioration in reserve		
b			
c			
d			
e			

7 What risk mitigation/transfer techniques does the Company have in place to address Reserve risk (e.g. adverse development covers) ?

List


	Pre-diversification	Diversification benefit	Post-diversification
8 Projected Target Economic Capital for Reserve risk	<input type="text"/>	<input type="text"/>	<input type="text"/>

### PROJECTED ECONOMIC CAPITAL AT 99.0% TOVAR (over 1 year time horizon)

9 Projected Economic Capital at 99.0% TVaR for Reserve risk	<input type="text"/>	<input type="text"/>	<input type="text"/>
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### PROJECTED ECONOMIC CAPITAL AT 99.95% TVAR (over 1 year time horizon)

10 Projected Economic Capital at 99.95% TVaR for Reserve risk	<input type="text"/>	<input type="text"/>	<input type="text"/>
---	----------------------	----------------------	----------------------

11 Explain the primary reason(s) for any material deviations between the Projected Target Economic Capital at 99% TVaR calculated for Reserve risk and the same capital charge in the Bermuda Solvency Capital Requirement (material being difference exceeding 10%).

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## CISSA PREMIUM RISK (TABLE 8D)

Sample Company  
December 31, 20xx

Risk owner (title)

Qualifications:

Responsibilities (summary)

### PROJECTED TARGET ECONOMIC CAPITAL

- 1 What is the primary model(s)/tool(s) used to calculate the Projected Target Economic Capital for Premium risk?

Others (list)

- 2 What are the primary sources of data inputs for the model(s)/tool(s) used for Premium risk (e.g. Company's historical data, peer data, industry data, etc)?

- 3 What are the key assumptions used ( e.g. distributions, parameters of distribution, assumed correlation considerations and the diversification benefits, etc) to determine the Premium risk?

- 4 Which classes/lines of business have the most volatility?

List

- 5 What are the main limitations of the model(s)/tool(s) used for Premium risk and how are these limitations addressed?

## CISSA PREMIUM RISK (TABLE 8D), Cont'd

### PROJECTED TARGET ECONOMIC CAPITAL

6 Provide details of stress and scenario testing performed for Premium risk, include the key assumptions and the quantitative results of the tests.

Details of stress and scenario tests		Key assumptions/sensitivities	Quantitative impact of stress test on capital and surplus
			Amounts in (US \$)
a	E.g. the risk of 40% underpricing in key business lines combined with 40% growth in business lines affected.		
b			
c			
d			
e			

7 What risk mitigation/transfer techniques does the Company have in place to address Premium risk?

List


	Pre-diversification	Diversification benefit	Post-diversification
8 Projected Target Economic Capital for Premium risk	<input type="text"/>	<input type="text"/>	<input type="text"/>

### PROJECTED ECONOMIC CAPITAL AT 99.0% TOVAR (over 1 year time horizon)

9 Projected Economic Capital at 99.0% TVaR for Premium risk	<input type="text"/>	<input type="text"/>	<input type="text"/>
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### PROJECTED ECONOMIC CAPITAL AT 99.95% TVAR (over 1 year time horizon)

10 Projected Economic Capital at 99.95% TVaR for Premium risk	<input type="text"/>	<input type="text"/>	<input type="text"/>
---	----------------------	----------------------	----------------------

11 Explain the primary reason(s) for any material deviations between the Projected Target Economic Capital at 99% TVaR calculated for Premium risk and the same capital charge in the Bermuda Solvency Capital Requirement (material being difference exceeding 10%).

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## CISSA MARKET RISK (TABLE 8E)

Sample Company  
December 31, 20xx

Risk owner (title)

Qualifications:

Responsibilities (summary)

### PROJECTED TARGET ECONOMIC CAPITAL

1 What is the primary model(s)/tool(s) used to calculate the Projected Target Economic Capital for Market  
Others (list)

2 What are the primary sources of data inputs for the model(s)/tool(s) used for Market risk (e.g. market prices from Bloomberg, asset ratings, interest rates etc)?

3 What are the key assumptions used (inflation rate, duration, assumed correlation considerations and the diversification benefits, etc) to determine the Market risk?

4 What are the main drivers for the Company's Market risk?

5 What are the main limitations of the model(s)/tool(s) used for Market risk and how are these limitations addressed?

**CISSA MARKET RISK (TABLE 8E), Cont'd**

**PROJECTED TARGET ECONOMIC CAPITAL**

6 Provide details of stress and scenario testing performed for Market risk, include the key assumptions and the quantitative results of the tests.

Details of stress and scenario tests		Key assumptions/sensitivities	Quantitative impact of stress test on capital and surplus
			Amounts in (US \$)
a			
b			
c			
d			
e			

7 What risk mitigation/transfer techniques does the Company have in place to address Market risk (e.g. the hedging strategies applied)?

List


	Pre-diversification	Diversification benefit	Post-diversification
8 Projected Target Economic Capital for Market risk	<input type="text"/>	<input type="text"/>	<input type="text"/>

**PROJECTED ECONOMIC CAPITAL AT 99.0% TOVAR (over 1 year time horizon)**

9 Projected Economic Capital at 99.0% TVaR for Market risk	<input type="text"/>	<input type="text"/>	<input type="text"/>
--	----------------------	----------------------	----------------------

**PROJECTED ECONOMIC CAPITAL AT 99.95% TVAR (over 1 year time horizon)**

10 Projected Economic Capital at 99.95% TVaR for Market risk	<input type="text"/>	<input type="text"/>	<input type="text"/>
--	----------------------	----------------------	----------------------

11 Explain the primary reason(s) for any material deviations between the Projected Target Economic Capital at 99% TVaR calculated for Market risk and the same capital charge in the Bermuda Solvency Capital Requirement (material being difference exceeding 10%).

*Note: Market risk from the Bermuda Solvency Capital Requirement consists of Equity Investment risk, Fixed Income Investment risk and Interest Rate/Liquidity risk capital charges"*

--

## CISSA CREDIT RISK (TABLE 8F)

Sample Company  
December 31, 20xx

Risk owner (title)

Qualifications:

Responsibilities (summary)

### PROJECTED TARGET ECONOMIC CAPITAL

1 What is the primary model(s)/tool(s) used to calculate the Projected Target Economic Capital for Credit risk?

Others (list)

2 What are the primary sources of data inputs for the model(s)/tool(s) used for Credit risk (e.g. rating agency, Company's historical data, etc)?

3 What are the key assumptions used ( e.g. probabilities of default used, assumed correlation considerations and the diversification benefits, etc) to determine the Credit risk?

4 What are the main drivers for the Company's Credit risk?

5 What are the main limitations of the model(s)/tool(s) used for Credit risk and how are these limitations addressed?

## CISSA CREDIT RISK (TABLE 8F), Cont'd

### PROJECTED TARGET ECONOMIC CAPITAL

6 Provide details of stress and scenario testing performed for Credit risk, include the key assumptions and the quantitative results of the tests.

Details of stress and scenario tests		Key assumptions/sensitivities	Quantitative impact of stress test on capital and surplus
			Amounts in (US \$)
a			
b			
c			
d			
e			

7 What risk mitigation/transfer techniques does the Company have in place to address Credit risk? (list )


	Pre-diversification	Diversification benefit	Post-diversification
8 Projected Target Economic Capital for Credit risk	<input type="text"/>	<input type="text"/>	<input type="text"/>

### PROJECTED ECONOMIC CAPITAL AT 99.0% TVAR (over 1 year time horizon)

9 Projected Economic Capital at 99.0% TVaR for Credit risk	<input type="text"/>	<input type="text"/>	<input type="text"/>
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### PROJECTED ECONOMIC CAPITAL AT 99.95% TVAR (over 1 year time horizon)

10 Projected Economic Capital at 99.95% TVaR for Credit risk	<input type="text"/>	<input type="text"/>	<input type="text"/>
--	----------------------	----------------------	----------------------

11 Explain the primary reason(s) for any material deviations between the Projected Target Economic Capital at 99% TVaR calculated for Credit risk and the same capital charge in the Bermuda Solvency Capital Requirement (material being difference exceeding 10%).

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# CISSA LIQUIDITY RISK (TABLE 8G)

Sample Company  
December 31, 20xx

Risk owner (title)

Qualifications:

Responsibilities (summary)

## PROJECTED TARGET ECONOMIC CAPITAL

1 What are the main drivers for the Company's Liquidity risk?

2 Provide details of stress and scenario testing performed for Liquidity risk, include the key assumptions and the quantitative results of the tests.

Details of stress and scenario tests		Key assumptions/sensitivities	Quantitative results of stress test
			Amounts in (US \$)
a	E.g. An increase in attritional claims with 25% of the total projected claims for the year occurring in one month		
b			
c			
d			
e			

3 What risk mitigation/transfer techniques does the Company have in place to address Liquidity risk? (list)

List

	Pre-diversification	Diversification benefit	Post-diversification
4 Projected Target Economic Capital for Liquidity risk	<input type="text"/>	<input type="text"/>	<input type="text"/>

### PROJECTED ECONOMIC CAPITAL AT 99.0% TOVAR (over 1 year time horizon)

5 Projected Economic Capital at 99.0% TVaR for Liquidity risk	<input type="text"/>	<input type="text"/>	<input type="text"/>
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### PROJECTED ECONOMIC CAPITAL AT 99.95% TVAR (over 1 year time horizon)

6 Projected Economic Capital at 99.95% TVaR for Liquidity risk	<input type="text"/>	<input type="text"/>	<input type="text"/>
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**CISSA OPERATIONAL RISK (TABLE 8H)**

Sample Company  
December 31, 20xx

Risk owner (title)

Qualifications:

Responsibilities (summary)

**PROJECTED TARGET ECONOMIC CAPITAL**

1 What are the main drivers for the Company's Operational risk?

2 Provide details of stress and scenario testing performed for Operational risk, include the key assumptions and the quantitative results of the tests.

Details of stress and scenarios tests		Key assumptions/sensitivities	Quantitative results of stress test
			Amounts in (US \$)
a			
b			
c			
d			
e			

3 What risk mitigation/transfer techniques does the Company have in place to address Operational risk?  
List

	Pre-diversification	Diversification benefit	Post-diversification
4 Projected Target Economic Capital for Operational risk	<input type="text"/>	<input type="text"/>	<input type="text"/>

**PROJECTED ECONOMIC CAPITAL AT 99.0% TVAR (over 1 year time horizon)**

5 Projected Economic Capital at 99.0% TVaR for Operational risk	<input type="text"/>	<input type="text"/>	<input type="text"/>
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**PROJECTED ECONOMIC CAPITAL AT 99.95% TVAR (over 1 year time horizon)**

6 Projected Economic Capital at 99.95% TVaR for Operational risk	<input type="text"/>	<input type="text"/>	<input type="text"/>
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# CISSA GROUP, REPUTATIONAL AND STRATEGIC RISK (TABLE 8I)

Sample Company  
December 31, 20xx

Risk owner (title)

Qualifications:

Responsibilities (summary)

## PROJECTED TARGET ECONOMIC CAPITAL

1 What are the main drivers for the Company's Group, Reputational and Strategic, risk?

2 Provide details of stress and scenario testing performed for Group, Reputational and Strategic risk, include the key assumptions and the quantitative results of the tests.

Details of stress and scenario tests		Key assumptions/sensitivities	Quantitative results of stress test
			Amounts in (US \$)
a	<input type="text"/>	<input type="text"/>	<input type="text"/>
b	<input type="text"/>	<input type="text"/>	<input type="text"/>
c	<input type="text"/>	<input type="text"/>	<input type="text"/>
d	<input type="text"/>	<input type="text"/>	<input type="text"/>
e	<input type="text"/>	<input type="text"/>	<input type="text"/>

3 What risk mitigation/transfer techniques does the Company have in place to address Group, Reputational and Strategic risk?(list )

	Pre-diversification	Diversification benefit	Post-diversification
4 Projected Target Economic Capital for Group, Reputational and Strategic risk.	<input type="text"/>	<input type="text"/>	<input type="text"/>

## PROJECTED ECONOMIC CAPITAL AT 99.0% TVAR (over 1 year time horizon)

5 Projected Economic Capital at 99.0% TVaR for Group, Reputational and Strategic risk.	<input type="text"/>	<input type="text"/>	<input type="text"/>
--	----------------------	----------------------	----------------------

## PROJECTED ECONOMIC CAPITAL AT 99.95% TVAR (over 1 year time horizon)

6 Projected Economic Capital at 99.95% TVaR for Group, Reputational and Strategic risk.	<input type="text"/>	<input type="text"/>	<input type="text"/>
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**APPENDIX B: CISSA RETURN (CLASS 3A INSURERS).**

**CISSA CAPITAL SUMMARY (TABLE 8)**

CLICK BUTTON TO NAVIGATE

Sample Company

expressed in ['000s] (currency used (vide Reg. 10(2))

Note: Documents supporting the CISSA filing should be retained for such period as specified in the [Order]

Projected Target  
Economic Capital

**CAPITAL**

Catastrophe risk	-
Reserve risk	-
Premium risk	-
Market risk	-
Credit risk	-
Liquidity risk	-
Operational risk	-
Group, Reputational and Strategic risk	-
Other (specify)	
<b>Total capital pre-diversification between risk categories</b>	-
<b>Diversification credit between risk categories</b>	
<b>Total capital after diversification between risk categories</b>	-

**ADDITIONAL INFORMATION**

1 What is the primary reason(s) (select multiple responses where applicable) for aiming at the disclosed Projected Target Economic Capital amount? (select all that apply by choosing Yes/No)

- Target agency rating (e.g. "A-", "AA", etc)
- Market share
- Business expansion
- Nature of product(s) (e.g. risk characteristics)
- Manage downgrade risk

Others (briefly describe)

2 What methodology is used to aggregate the risk categories?

Others (list)

3 Does the Company have sufficient capital and liquidity based on its CISSA to achieve its medium and long-term (e.g. 2 to 5 years, etc.) strategic objectives?

If no, briefly describe the potential adverse consequences.

## CISSA CAPITAL SUMMARY (TABLE 8), Cont'd

4 What contingency plans are in place for raising additional capital under stress situations? (select all that apply by choosing Yes/No)

- Parental guarantees
- Revolving letters of credit
- Issue subordinated debt
- Issue preference shares
- Float additional shares
- Capital injections from parent
- Contingent surplus notes
- Catastrophe derivatives (e.g. bonds, swaps and options)

Others (briefly describe)

5 Does the Company have arrangements/ contractual commitments to provide support to affiliates/other companies in stressed situations?

If yes, briefly describe the arrangement(s) and the aggregate exposure.

6 Does the Company have assets, above those that are encumbered (to support regulatory capital requirements and policyholder obligations) at the subsidiary level, that are not fungible and transferable?

If yes, provide details and briefly describe how these have been reflected in the CISSA.

7 Has the Company engaged in multiple gearing?

If yes, provide details and amount of capital.

8 Briefly provide a narrative surrounding actual business continuity/disaster plans in place and any disaster mitigation and monitoring.

9 Was the CISSA return reviewed and approved by the Board of Directors?

Signatory:

Print Name:

Resident Director

Date:

Signatory:

Print Name:

Director

Date:

Insurer Name: [CLICK BUTTON TO NAVIGATE](#)

## CISSA GENERAL QUESTIONS (TABLE 8A)

Sample Company  
December 31, 20xx

The Company is to review the following statements and select "Yes" or "No" from the drop-down list as applicable.

- 1 Is the CISSA and its underlying information integrated (i.e. considered when making key strategic decisions) into the Company's strategic and risk management decision-making processes?

If Yes, how is CISSA and its underlying information used? (select all that apply by choosing Yes/No)

Strategic planning	
Annual business planning	
Setting risk limits	
Defining risk appetite	
Evaluation of capital adequacy	
Allocation of capital to business segments and lines of business	
Capital management	
Determination of rates of return for pricing and underwriting guidelines	
Reinsurance purchase	
Determination of investment policies and strategies	
Meeting regulatory requirements	
Improving credit rating	
Improving investor relations	
Assessing risk adjusted product profitability	
Performance measurement and assessment	
Improving mergers and acquisition decisions	
Others (list)	

### Concentration Risk:

2 Questions	Yes/No
a) Is there a potential for the Company to have an accumulation of losses to material lines of business outside of the property catastrophe line arising from the following that could threaten its solvency?	
<p>If yes, what are the potential cause(s) of the accumulation of losses?</p> <p>A severe event</p> <p>Series of many small events or individual claims</p> <p>Over concentration of exposure to one product</p> <p>Over concentration to one source of business</p> <p>Over concentration to one line of business</p> <p>A common cause across many underwriting years (e.g. asbestos, pollution, silicon etc.)</p> <p>Others (list)</p>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
b) Does the Company have absolute limitations set on individual policies or groups of policies to avoid threatening its solvency (such as limitations on a geographical basis, product basis, line of business basis, source of business basis, etc.)?	
<p>If yes, are the limitations assessed for reasonableness and effectiveness in reducing the threat to solvency?</p>	
c) Does the Company purchase reinsurance to mitigate the risk of accumulated losses?	
d) Does the Company have procedures in place to assess the adequacy of the reinsurance purchased both from a severity and frequency perspective for solvency purposes?	
e) Does the Company have procedures in place to ensure that there are no significant mismatches between the policies issued by the Company and the reinsurance programme (e.g. a company may have basis risk from catastrophe bonds, industry loss warranties, etc.)?	
f) Does the Company have access to additional capital and surplus to cover loss and loss adjustment expenses (e.g., letters of credit, parental guarantees, other contingent capital sources, etc.)?	

## CISSA GENERAL QUESTIONS (TABLE 8A), Cont'd

### Related Business:

3	<b>Question</b>	<b>%</b>
	What percentage of the gross premiums written covers a related policyholder?	

Optionally, the Company may provide additional comments to support its responses under questions 2 and 3 above:

### 4 Model(s)/tool(s) used to calculate the Projected Target Economic Capital

Governance	Select	Comments
Does the Board of Directors, chief and senior executives approve the design, maintenance and use of the model(s)/tool(s)?		
How often does the Board or relevant Board committees review outputs, changes and issues arising from the model(s)/tool(s) (review should be documented e.g. minutes, presentations etc)?		
Does the Board and chief and senior executives have a thorough understanding of the key assumptions/elements and the implications of the outputs (including limitations) of the model(s)/tool(s)?		
Validation	Select	Comments
Is the model(s)/tool(s) subject to a regular cycle of validation, which includes the monitoring of performance, review appropriateness of model specifications and testing of forecast results against actual results?		
How often is the validation of the model(s)/tool(s) performed?		
Does the validation process demonstrate that the model(s)/tool(s) remains suitable during changing conditions (e.g. changes in inflation, interest rate, etc)? If no, provide comments.		
Documentation	Select	Comments
Does the Company have formal documentation of the structure, design, operational details, input assumptions, parameters, governance process and controls of the model(s)/tool(s)?		
If yes, to what extent is the model(s)/tool(s) documented such that it can be used by new personnel with limited user experience? (include comments for partial or no documentations)		
How often does the Board of Directors or chief and senior executives review and approve the model/input documentation?		
Internal controls	Select	Comments
How does the Company rate the effectiveness of the controls in place to monitor and evaluate the operation and maintenance of the model(s)/tool(s)?		
Are there strict protocols in place restricting access to the model(s)/tool(s) and ability to make adjustments thereto?		
Others	List	
What is the risk measure (VaR, TVaR etc), confidence interval (95%, 99.95% etc) and time horizon (1 year, 3 years etc)?		

### CISSA GENERAL QUESTIONS (TABLE 8A), Cont'd

5 The Company's risk appetite (i.e. the amount of capital the Company is willing to lose in any single event or a series of events over a defined period).

a) How does the Company define its risk appetite?

b) What is the Company's risk appetite and how is it measured?

c) What are the limits imposed and how are the limits enforced?

d) How often does the Company monitor/review adherence to the risk appetite (e.g. adherence to limits set )?

Others (briefly explain)

6 Has the Company applied reverse stress testing to both identify the scenarios that could cause business failure and the required actions to manage such situations?

7 Is the CISSA process clearly documented and regularly amended for changes in strategic direction, risk management framework, and market developments?

Optionally, the Company may provide brief comments.

8 How often is the information underlying CISSA discussed and reviewed by the Board and chief and senior executives?

Others, briefly explain.

9 Has the Board of Directors and chief and senior executives ensured that an appropriate oversight process is in place, including an appropriate level of independent verification, whereby material deficiencies are reported on a timely basis and suitable actions taken?

Optionally, the Company may provide brief comments.

10 What are the key risks that the Company faces over the course of the next 2 to 3 years, and the steps taken (if any) to manage/address these key risks? (list the risks and the steps to address the risks ).

## CISSA GENERAL QUESTIONS (TABLE 8A), Cont'd

11 Briefly describe the Company's governance structure including the:

Attach file

- i) The structure of the board of directors and executive management, including roles and work experience of officers.
- ii) The terms of reference of the board of directors and its sub-committees.

12 Provide details of material intra-group exposures between the Company and other members of the group to which it belongs.

Attach file

- a. The details of the intra-group transactions would include (where applicable):
  - i. Exposure value (face value or market value, if the latter is available);
  - ii. Counterparties involved including where they are located;
  - iii. Summary details of the transaction – including purpose, terms, transaction costs etc.;
  - iv. Duration of the transaction; and
  - v. Performance triggers.
- b. The details surrounding reinsurance and retrocessions arrangements would cover:
  - i. Aggregated values of the exposure limits (gross and net) by counterparties, broken down by counterparty rating;
  - ii. Aggregated premium flows between counterparties (gross and net); and
  - iii. The proportion of the Company's business exposure covered by internal reinsurance, retrocession and other risk transfer arrangements.

*Note: materiality with regards to intra-group transactions will be defined as follows:*

- i. an intra-group transaction whose impact can cause a reduction in the Company's available statutory capital & surplus by 5% or more; and*
- ii. a series of linked intra-group transactions that can cumulatively reduce a Company's available capital & surplus by 10% or more.*
- iii. Qualitative risk characteristics of the transaction: for example, a transaction may be assessed as high risk; however, the quantitative impact remains unknown.*

13 Briefly describe the risk management program including:

Attach file

- i) How the risk management program is used for strategic management decision making, capital allocation and capital adequacy;
- ii) The governance surrounding the risk management process including the identification of the owners of the process and the extent of the board of directors involvement; and
- iii) A description of the process undertaken to monitor material risk concentration.

14 Provide a risk register analysis disclosing:

Attach file

- i) A description of the Company's material risks;
- ii) Owners of the respective risks;
- iii) The impact and probability of the risk and the overall risk assessment;
- iv) A summary of risk mitigation/controls in place and an assessment of their effectiveness in reducing the probability and/or impact of the risk; and
- v) Overall assessment of the impact and probability of the residual risk.

# CISSA CATASTROPHE RISK (TABLE 8B)

[CLICK BUTTON TO NAVIGATE](#)

December 31, 20xx

Risk owner (title)

Qualifications:

Responsibilities (summary)

## PROJECTED TARGET ECONOMIC CAPITAL

1 What is the primary model(s)/tool(s) used to calculate the Projected Target Economic Capital for Catastrophe risk?

Others (list)

2 What are the primary sources of data inputs for the model(s)/tool(s) used for Catastrophe risk (e.g. Company's historical data, brokers, etc)?

3 What are the key assumptions used ( e.g. assumed correlation considerations and the diversification benefits, discount rate, etc) to determine the Catastrophe risk?

4 What are the main drivers for the Company's Catastrophe risk?

(select all that apply by choosing Yes/No )

- US earthquake
- European windstorm
- Japanese earthquake
- Japanese typhoon
- Terrorism

Others (list)

5 What are the main limitations of the model(s)/tool(s) used for Catastrophe risk and how are these limitations addressed?

## CISSA CATASTROPHE RISK (TABLE 8B), Cont'd

### PROJECTED TARGET ECONOMIC CAPITAL

6 Provide details of stress and scenario testing performed for Catastrophe risk, include the key assumptions and the quantitative results of the tests.

	Details of stress and scenario tests	Key assumptions/sensitivities	Quantitative impact of stress test on capital and surplus
			Amounts in (US \$)
a			
b			
c			
d			
e			

7 What risk mitigation/transfer techniques does the Company have in place to address Catastrophe risk (e.g. reinsurance, catastrophe bonds)?

List


Pre-diversification

Diversification benefit

Post-diversification

8 Projected Target Economic Capital for Catastrophe risk




9 Explain the primary reason(s) for any material deviations between the Projected Target Economic Capital calculated for Catastrophe risk and the capital charge for Catastrophe risk in the Bermuda Solvency Capital Requirement simplified version ("BSCR-SME") (material being difference exceeding 15%).

## CISSA RESERVE RISK (TABLE 8C)

Sample Company  
December 31, 20xx

Risk owner (title)

Qualifications:

Responsibilities (summary)

### PROJECTED TARGET ECONOMIC CAPITAL

1 What is the primary model(s)/tool(s) used to calculate the Projected Target Economic Capital for Reserve risk?

Others (list)

2 What are the primary sources of data inputs for the model(s)/tool(s) used for Reserve risk (e.g. Company's historical data, industry data, Onesource, NCCI, ISO etc)?

3 What are the key assumptions used ( e.g. assumed correlation considerations and the diversification benefits, etc) to determine the Reserve risk?


4 What are the main drivers for the Company's Reserve risk?

(select all that apply by choosing Yes/No )

- |                          |   |
|--------------------------|---|
| <input type="checkbox"/> | Inflation   |
| <input type="checkbox"/> | Correlation of lines of business                          |
| <input type="checkbox"/> | Legislative and regulatory changes                        |
| <input type="checkbox"/> | Loss trend movements                                      |
| <input type="checkbox"/> | Timing and reporting changes at underlying ceding company |

Others (list)

5 What are the main limitations of the model(s)/tool(s) used for Reserve risk and how are these limitations addressed?

## CISSA RESERVE RISK (TABLE 8C), Cont'd

### PROJECTED TARGET ECONOMIC CAPITAL

6 Provide details of stress and scenario testing performed for Reserve risk, include the key assumptions and the quantitative results of the tests.

Details of stress and scenario tests		Key assumptions/sensitivities	Quantitative impact of stress test on capital and surplus
			Amounts in (US \$)
a	e.g. the impact of 40% deterioration in reserve		
b			
c			
d			
e			

7 What risk mitigation/transfer techniques does the Company have in place to address Reserve risk (e.g. adverse development covers) ?

List


Pre-diversification

Diversification benefit

Post-diversification

8 Projected Target Economic Capital for Reserve risk




9 Explain the primary reason(s) for any material deviations between the Projected Target Economic Capital calculated for Reserve risk and the capital charge for Reserve risk in the BSCR-SME (material being difference exceeding 15%).

## CISSA PREMIUM RISK (TABLE 8D)

Sample Company  
December 31, 20xx

Risk owner (title)

Qualifications:

Responsibilities (summary)

### PROJECTED TARGET ECONOMIC CAPITAL

- 1 What is the primary model(s)/tool(s) used to calculate the Projected Target Economic Capital for Premium risk?

Others (list)

- 2 What are the primary sources of data inputs for the model(s)/tool(s) used for Premium risk (e.g. Company's historical data, peer data, industry data, etc)?

- 3 What are the key assumptions used ( e.g. distributions, parameters of distribution, assumed correlation considerations and the diversification benefits, etc) to determine the Premium risk?


- 4 Which classes/lines of business have the most volatility?

List

- 5 What are the main limitations of the model(s)/tool(s) used for Premium risk and how are these limitations addressed?

## CISSA PREMIUM RISK (TABLE 8D), Cont'd

### PROJECTED TARGET ECONOMIC CAPITAL

6 Provide details of stress and scenario testing performed for Premium risk, include the key assumptions and the quantitative results of the tests.

	Details of stress and scenario tests	Key assumptions/sensitivities	Quantitative impact of stress test on capital and surplus
			Amounts in (US \$)
a	E.g. the risk of 40% underpricing in key business lines combined with 40% growth in business lines affected.		
b			
c			
d			
e			

7 What risk mitigation/transfer techniques does the Company have in place to address Premium risk?

List


Pre-diversification

Diversification benefit

Post-diversification

8 Projected Target Economic Capital for Premium risk




9 Explain the primary reason(s) for any material deviations between the Projected Target Economic Capital calculated for Premium risk and the capital charge for Premium risk in the BSCR-SME (material being difference exceeding 15%).

--

# CISSA MARKET RISK (TABLE 8E)

Sample Company  
December 31, 20xx

Risk owner (title)

Qualifications:

Responsibilities (summary)

## PROJECTED TARGET ECONOMIC CAPITAL

1 What is the primary model(s)/tool(s) used to calculate the Projected Target Economic Capital for Market  
Others (list)

2 What are the primary sources of data inputs for the model(s)/tool(s) used for Market risk (e.g. market prices from Bloomberg, asset ratings, interest rates etc)?

3 What are the key assumptions used (inflation rate, duration, assumed correlation considerations and the diversification benefits, etc) to determine the Market risk?

4 What are the main drivers for the Company's Market risk?

5 What are the main limitations of the model(s)/tool(s) used for Market risk and how are these limitations addressed?

## CISSA MARKET RISK (TABLE 8E), Cont'd

### PROJECTED TARGET ECONOMIC CAPITAL

6 Provide details of stress and scenario testing performed for Market risk, include the key assumptions and the quantitative results of the tests.

	Details of stress and scenario tests	Key assumptions/sensitivities	Quantitative impact of stress test on capital and surplus
			Amounts in (US \$)
a			
b			
c			
d			
e			

7 What risk mitigation/transfer techniques does the Company have in place to address Market risk (e.g. the hedging strategies applied)?

List


Pre-diversification

Diversification benefit

Post-diversification

8 Projected Target Economic Capital for Market risk




9 Explain the primary reason(s) for any material deviations between the Projected Target Economic Capital calculated for Market risk and the capital charge for Market risk in the BSCR-SME (material being difference exceeding 15%).

*Note: Market risk from the Bermuda Solvency Capital Requirement consists of Equity Investment risk, Fixed Income Investment risk and Interest Rate/Liquidity risk capital charges"*

--

## CISSA CREDIT RISK (TABLE 8F)

Sample Company  
December 31, 20xx

Risk owner (title)

Qualifications:

Responsibilities (summary)

### PROJECTED TARGET ECONOMIC CAPITAL

1 What is the primary model(s)/tool(s) used to calculate the Projected Target Economic Capital for Credit risk?

Others (list)

2 What are the primary sources of data inputs for the model(s)/tool(s) used for Credit risk (e.g. rating agency, Company's historical data, etc)?

3 What are the key assumptions used ( e.g. probabilities of default used, assumed correlation considerations and the diversification benefits, etc) to determine the Credit risk?

4 What are the main drivers for the Company's Credit risk?

5 What are the main limitations of the model(s)/tool(s) used for Credit risk and how are these limitations addressed?

## CISSA CREDIT RISK (TABLE 8F), Cont'd

### PROJECTED TARGET ECONOMIC CAPITAL

6 Provide details of stress and scenario testing performed for Credit risk, include the key assumptions and the quantitative results of the tests.

	Details of stress and scenario tests	Key assumptions/sensitivities	Quantitative impact of stress test on capital and surplus
			Amounts in (US \$)
a			
b			
c			
d			
e			

7 What risk mitigation/transfer techniques does the Company have in place to address Credit risk? (list )


Pre-diversification

Diversification benefit

Post-diversification

8 Projected Target Economic Capital for Credit risk




9 Explain the primary reason(s) for any material deviations between the Projected Target Economic Capital calculated for Credit risk and the capital charge for Credit risk in the BSCR-SME (material being difference exceeding 15%).

--

# CISSA LIQUIDITY RISK (TABLE 8G)

Sample Company  
December 31, 20xx

Risk owner (title)

Qualifications:

Responsibilities (summary)

## PROJECTED TARGET ECONOMIC CAPITAL

1 What are the main drivers for the Company's Liquidity risk?

2 Provide details of stress and scenario testing performed for Liquidity risk, include the key assumptions and the quantitative results of the tests.

Details of stress and scenario tests		Key assumptions/sensitivities	Quantitative results of stress test
			Amounts in (US \$)
a	E.g. An increase in attritional claims with 25% of the total projected claims for the year occurring in one month		
b			
c			
d			
e			

3 What risk mitigation/transfer techniques does the Company have in place to address Liquidity risk?

List

Pre-diversification

Diversification benefit

Post-diversification

4 Projected Target Economic Capital for Liquidity risk

# CISSA OPERATIONAL RISK (TABLE 8H)

Sample Company  
December 31, 20xx

Risk owner (title)

Qualifications:

Responsibilities (summary)

## PROJECTED TARGET ECONOMIC CAPITAL

1 What are the main drivers for the Company's Operational risk?

2 Provide details of stress and scenario testing performed for Operational risk, include the key assumptions and the quantitative results of the tests.

Details of stress and scenarios tests		Key assumptions/sensitivities	Quantitative results of stress test
			Amounts in (US \$)
a			
b			
c			
d			
e			

3 What risk mitigation/transfer techniques does the Company have in place to address Operational risk?  
List

Pre-diversification

Diversification benefit

Post-diversification

4 Projected Target Economic Capital for Operational risk

# CISSA GROUP, REPUTATIONAL AND STRATEGIC RISK (TABLE 8I)

Sample Company  
December 31, 20xx

Risk owner (title)

Qualifications:

Responsibilities (summary)

## PROJECTED TARGET ECONOMIC CAPITAL

1 What are the main drivers for the Company's Group, Reputational and Strategic risk?

2 Provide details of stress and scenario testing performed for Group, Reputational and Strategic risk, include the key assumptions and the quantitative results of the tests.

	Details of stress and scenario tests	Key assumptions/sensitivities	Quantitative results of stress test
			Amounts in (US \$)
a			
b			
c			
d			
e			

3 What risk mitigation/transfer techniques does the Company have in place to address Group, Reputational and Strategic risk? (list )

Pre-diversification

Diversification benefit

Post-diversification

4 Projected Target Economic Capital for Group, Reputational and Strategic risk.

# Appendix Three: Switzerland Questionnaire



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# SWISS QUALITY ASSESSMENT

## RISK MANAGEMENT / INTERNAL CONTROL SYSTEM TOOL (RM/ICS TOOL)

DOCUMENTATION, APPLICATION IN PRACTICE, SELF-  
ASSESSMENT

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Company

Address

Contact

Function

E-mail

Telephone (direct line)

Date

Mail hotline

SQA@bpv.admin.ch

Recipient

Bundesamt für Privatversicherungen BPV  
Schwanengasse 2  
3003 Bern

Berne, 20 December 2007

# RM/ICS TOOL

## INTRODUCTION

Directive BPV15/2006 requires insurance companies to implement an appropriate system of risk management and an effective internal control system to ensure that potential risks are detected and appraised at an early stage, and to introduce measures to prevent or contain major risks and risk accumulation. Risk management (RM) involves those methods and processes which serve to identify, appraise, monitor and report risks through the introduction of corresponding risk strategies and control measures. The Internal Control System (ICS) covers the processes, methods and measures implemented within a company aimed at providing adequate security against the risks associated with corporate governance, in particular with regard to the efficacy of business processes, the reliability of financial reporting, and adherence to laws and provisions.

*The BPV (Bundesamt für Privatversicherungen – Federal Office of Private Insurance) uses the RM/ICS tool set out in this document to ascertain whether appropriate RM and ICS documentation exists, how it is applied in practice (application in practice), and how this documentation and the application of the principles therein help the company in question to meet its risk-management objectives (self-assessment).*

The RM/ICS tool must be completed, i.e. filled out for every company subject to supervision in Switzerland. In the case of group insurance companies and conglomerates, the tool need only be completed by the corresponding holding company if the answers apply to the respective group companies supervised in Switzerland. In the case of deviations from the group rules, a tool must be completed for each individual subsidiary supervised in Switzerland showing only the deviations from the group rules. To cover repercussions, a tool must also be completed for insurance conglomerates in order to detail the risk management rules that apply to non-insurance corporations.

Once submitted with the relevant attachments, the RM/ICS tool is evaluated by the BPV. Depending on the result, this is followed by individual talks between BPV representatives and the chairman of the board of directors, the chief executive officer and the chief risk officer. If need be, talks will also be held with the chairman of the review board or of the risk committee should one exist, members of the executive board, the chief compliance officer (if he/she is not a member of the executive board), the head of internal auditing, the external auditing partners, the responsible actuary, the secretary of the board of directors, and the chief legal officer. The BPV may identify other parties with which it wishes to speak.

Should measures appear necessary, the BPV will conduct a risk dialogue with the company before making any recommendations or delivering instructions.

Further information on Swiss Quality Assessment (SQA), the tools and the procedure in general can be found on the BPV's website ([www.bpv.admin.ch](http://www.bpv.admin.ch)) under "Swiss Quality Assessment (SQA)".

# RM/ICS TOOL

## ABBREVIATIONS

BD	Board of Directors
BPV	Bundesamt für Privatversicherungen – Federal Office of Private Insurance
CEO	Chief Executive Officer
CRO	Chief Risk Officer
EB	Executive Board
GEB	Group Executive Board
HR	Human Resources
ICS	Internal Control System
ICS documentation	Documentation on the internal control system
ICS practice	Practical application of the internal control system
RA	Responsible Actuary
RM	Risk Management
RM documentation	Risk management documentation
RM practice	Practical application of risk management
SQA	Swiss Quality Assessment



# RM/ICS TOOL

## PRACTICAL APPLICATION OF RM/ICS

### 1 ALLGEMEINE FRAGEN

1.1 How would you characterise RM in your company? *Reference in documentation*

.....

.....

1.2 How would you characterise the ICS in your company? What risks does it cover? *Reference in documentation*

.....

.....

1.3 What structures and processes exist to support the incorporation of RM and the ICS into your company's strategic deliberations? *Reference in documentation*

.....

.....

1.4 How do the BD and the GEB/EB address the company's risk situation and its control activities? How do they gain an overall impression of the risk situation? *Reference in documentation*

.....

.....

1.5 How do you ensure that the areas of RM and ICS are adequately staffed? *Reference in documentation*

.....

.....

1.6 How do you maintain a separation of functions between RM and the ICS on the one hand, and between the various operational units on the other? *Reference in documentation*

.....

.....

### 2 QUESTIONS CONCERNING RISK IDENTIFICATION AND APPRAISAL

2.1 How does your company identify and appraise risks? How do *Reference in documentation*

you ensure that risk identification is as comprehensive as possible?

.....

.....

2.2 In particular, how are operational risks identified and appraised? What instruments are used to do this?

*Reference in documentation*

.....

.....

2.3 How frequently are risks identified?

*Reference in documentation*

.....

.....

2.4 How does your company categorise risks? And how are the individual categories rated in terms of size/significance?

*Reference in documentation*

.....

.....

2.5 What structures and processes are in place to identify and appraise new major risks?

*Reference in documentation*

.....

.....

2.6 What factors can lead to a risk's appraisal being adjusted?

*Reference in documentation*

.....

.....

2.7 How often and by whom is the method of risk identification and appraisal reviewed?

*Reference in documentation*

.....

.....

2.8 Who (function) in your company is responsible for identifying and appraising risks? In particular, who is responsible for identifying and appraising operational risks?

*Reference in documentation*

.....

.....

2.9 How is claims data collected and formulated into operational risk?

*Reference in documentation*

.....

2.10 How is the Swiss Solvency Test embedded in the risk identification process? *Reference in documentation*

.....

### 3 QUESTIONS CONCERNING RISK MANAGEMENT ACTIVITIES

3.1 What options and instruments does your company employ to control the scale of the various risks? Who decides how and when these instruments are to be deployed? To what extent does your company use risk mitigation systems; what systems are these? Please state general areas of use *Reference in documentation*

a) for technical underwriting risks?  
b) for market risks?  
c) for credit and surety risks?  
d) for liquidity risks?  
e) for operational risks?

.....

3.2 Are the relevant task and duties, including delegation, set out in writing and documented? *Reference in documentation*

a) for technical underwriting risks?  
b) for market risks?  
c) for credit and surety risks?  
d) for liquidity risks?  
e) for operational risks?

.....

3.3 How does your company define its risk propensity? What values were defined for the current business year? *Reference in documentation*

.....

3.4 Is business continuity management practised in your company? If so, what does this involve? *Reference in documentation*

.....

3.5 How is the Swiss Solvency Test embedded in the risk man- *Reference in documentation*

agement process?

.....

.....

#### 4 QUESTIONS CONCERNING THE ICS (CONTROL ACTIVITIES)

4.1 Who in your company is responsible for documenting the ICS? *Reference in documentation*

.....

.....

4.2 Who in your company is responsible for implementing the ICS? *Reference in documentation*

.....

.....

4.3 How often and by whom is the efficacy (quality) of the ICS evaluated? *Reference in documentation*

.....

.....

4.4 What structures and processes are deployed in your company when ICS principles are breached or existing controls are found to be ineffective? *Reference in documentation*

.....

.....

4.5 How do EB members ensure that the ICS is fully implemented in your company and that they are kept fully informed about the efficacy (quality) of the system? *Reference in documentation*

.....

.....

4.6 How does management ensure that the ICS is reconciled with the company's strategic plans? *Reference in documentation*

.....

.....

4.7 What structures and processes are in place to assess the risk arising from specific key transactions? *Reference in documentation*

.....

.....

- 4.8 How does management ensure that controls are actually being carried out and are being verifiably documented? *Reference in documentation*

.....

.....

## 5 QUESTIONS CONCERNING INFORMATION AND REPORTING

- 5.1 Does your company have a systematic reporting system on new and existing risks and for control activities? Does a structured reporting system exist between the individual organisational units and the next level in the company hierarchy? Does this reporting system cover both everyday business activities and special occurrences? *Reference in documentation*

.....

.....

- 5.2 Who is responsible for creating and forwarding information and reports on new and existing risks and on control activities? In particular, on operational risks too? *Reference in documentation*

.....

.....

- 5.3 How are information and escalation processes for new and existing risks defined? In particular, how are these defined for operational risks? *Reference in documentation*

.....

.....

- 5.4 How do you impart the necessary information to staff in the areas of RM and ICS? *Reference in documentation*

.....

.....

- 5.5 What information on RM and the ICS does your company disclose? *Reference in documentation*

.....

.....

- 5.6 How does the EB keep itself informed about the status and quality of those areas for which it is not directly responsible? *Reference in documentation*

.....

5.7 In what form and to whom are the findings from the risk identification and appraisal processes forwarded in your company? *Reference in documentation*

.....

## 6 QUESTIONS CONCERNING SYSTEM MONITORING AND CORRECTIVE ACTION

6.1 What structures and processes are in place in your company to ensure that corrective action is taken when serious deficiencies in RM and the ICS are detected? *Reference in documentation*

.....

6.2 Are the RM and ICS processes in place in your company systematically recorded and subjected to quality control, and is their efficacy regularly assessed? *Reference in documentation*

.....

6.3 Does your corporate culture and organisation support ongoing improvements of processes and controls? *Reference in documentation*

.....

6.4 Who in your company is responsible for deciding on the further development of RM and the ICS? *Reference in documentation*

.....

# RM/ICS TOOL

## RM/ICS SELF-ASSESSMENT

1. The existing RM documentation covers methods and processes which serve to identify, appraise, monitor and report on major risks.

Applies		<input type="checkbox"/>
Could be improved	{	slightly <input type="checkbox"/>
		to some extent <input type="checkbox"/>
		greatly <input type="checkbox"/>
Does not apply		<input type="checkbox"/>

Remarks (please be specific about the potential for improvement)

.....

2. The application in practice of risk management in the company complies with the provisions set out in the RM documentation.

Applies		<input type="checkbox"/>
Could be improved	{	slightly <input type="checkbox"/>
		to some extent <input type="checkbox"/>
		greatly <input type="checkbox"/>
Does not apply		<input type="checkbox"/>

Remarks (please be specific about the potential for improvement)

.....

3. The existing ICS documentation covers those processes, methods and measures implemented within the company that are aimed at providing adequate security against the risks associated with corporate governance.

Applies		<input type="checkbox"/>
Could be improved	{	slightly <input type="checkbox"/>
		to some extent <input type="checkbox"/>
		greatly <input type="checkbox"/>

Does not apply

Remarks (please be specific about the potential for improvement)

.....

4. The application in practice of the ICS concept as set out in the ICS documentation complies with ICS objectives.

Applies

Could be improved { slightly   
to some extent   
greatly

Does not apply

Remarks (please be specific about the potential for improvement)

.....

5. The parties involved can comprehend the documentation on RM and the ICS and the corresponding reporting processes.

Applies

Could be improved { slightly   
to some extent   
greatly

Does not apply

Remarks (please be specific about the potential for improvement)

.....

6. Adequate resources are in place to implement RM and the ICS satisfactorily.

Applies

Could be improved { slightly   
to some extent   
greatly

Does not apply

Remarks (please be specific about the potential for improvement)

.....

7. The organisation, processes, responsibilities and duties in your company are adequately defined and implemented for RM and the ICS.

Applies

Could be improved 

{	slightly	<input type="checkbox"/>
	to some extent	<input type="checkbox"/>
	greatly	<input type="checkbox"/>

Does not apply

Remarks (please be specific about the potential for improvement)

.....

8. The staff involved in the RM/ICS processes in your company are adequately trained and/or instructed in writing, etc. to fully implement the RM and ICS objectives in their particular task areas.

Applies

Could be improved 

{	slightly	<input type="checkbox"/>
	to some extent	<input type="checkbox"/>
	greatly	<input type="checkbox"/>

Does not apply

Remarks (please be specific about the potential for improvement)

.....

9. The risk identification and appraisal processes cover all currently known significant risks.

Applies

Could be improved 

{	slightly	<input type="checkbox"/>
	to some extent	<input type="checkbox"/>
	greatly	<input type="checkbox"/>

Does not apply

Remarks (please be specific about the potential for improvement)

.....

**10.** The company follows a risk strategy commensurate with the size and complexity of the existing risks, taking its risk propensity and risk tolerance into account.

Applies

Could be improved { slightly   
to some extent   
greatly

Does not apply

Remarks (please be specific about the potential for improvement)

.....

**11.** With the risk management measures currently at its disposal, the company is in a position to contain all major risks and risk accumulation and to transfer, mitigate or cover these risks at an early stage.

Applies

Could be improved { slightly   
to some extent   
greatly

Does not apply

Remarks (please be specific about the potential for improvement)

.....

**12.** Top management and the board of directors are notified at an early stage of any extraordinary risk developments and exceptional events.

Applies

Could be improved { slightly   
to some extent

greatly

Does not apply

Remarks (please be specific about the potential for improvement)

.....

**13.** The company has taken the necessary steps to safeguard reliable reporting of both financial and risk-related information to internal and external units.

Applies

Could be improved 

{	slightly	<input type="checkbox"/>
	to some extent	<input type="checkbox"/>
	greatly	<input type="checkbox"/>

Does not apply

Remarks (please be specific about the potential for improvement)

.....

**14.** With its ICS, the company has taken the necessary steps to ensure that external and internal regulations and provisions are adhered to.

Applies

Could be improved 

{	slightly	<input type="checkbox"/>
	to some extent	<input type="checkbox"/>
	greatly	<input type="checkbox"/>

Does not apply

Remarks (please be specific about the potential for improvement)

.....

**15.** Structures and processes are in place to verify the efficacy and development in quality of the RM/ICS processes.

Applies

Could be improved 

{	slightly	<input type="checkbox"/>
	to some extent	<input type="checkbox"/>

greatly

Does not apply

Remarks (please be specific about the potential for improvement)

.....

**16. Control activities exist which regularly verify adherence to defined measures.**

Applies

Could be improved { slightly   
to some extent   
greatly

Does not apply

Remarks (please be specific about the potential for improvement)

.....

Place and date:

Signatures

The Chairman of the Board of Directors:  
Board:

The Chairman of the Executive

**Appendix Four:**  
**U.S. Risk-Focused Examination Exhibits**

## EXHIBIT L BRANDED RISK CLASSIFICATIONS

In order to assist examiners in categorizing identified risks, this exhibit links common risk areas and risk management controls to the branded risk classifications. This exhibit has been provided as a guide to the examiner and does not represent an all-inclusive list of risk areas or risk management controls that will be identified when obtaining an understanding of the insurer's operations. In addition, it should not be considered to be an exhaustive or definitive guide in determining the type of risk classification that would apply to each risk area, as each situation must be considered individually in the context of the insurer's environment in order to determine the appropriate branded risk classification. The nine risk classifications are to be identified in the Risk Assessment Matrix for each key activity being examined. More than one of the nine risk types may be applicable to a particular activity; as such, more than one risk type may be listed in the Risk Assessment Matrix. The following guidance is designed to help examiners think critically about the correlation between the nine risk classifications and various areas of the financial statements.

**1. Credit Risk** – Amounts actually collected or collectible are less than those contractually due.

*Risk Areas to Consider:*

- Level and trend of non-investment grade, problem, restructured, delinquent and non-performing earning assets.
- Existence of asset concentrations to include reinsurance recoverables and/or intercompany receivables.
- Strength of affiliates involved in reinsurance pooling or asset participation arrangements.
- Custodial arrangements.
- Materiality of agents' balances.
- Use of derivative or off-balance sheet transactions to mitigate credit risk (counter-party risk).
- Premium and other receivables (e.g., commissions, refunds, etc.).
- 

*Evaluating Credit Risk Management Controls (i.e., Effectiveness):*

- Policies established by management and the board are comprehensive and define risk tolerances, asset allocations and accountabilities.
- Underwriting standards and risk identification processes are in place, and audited for compliance.
- Exceptions (particularly management overrides) to policies and/or processes are reported to the board.
- Through utilization of risk monitoring processes, problem assets (including agents' balances and affiliate receivables) are identified timely and collection steps initiated quickly.
- Custodial arrangements are reviewed periodically and compliance with investment laws and regulations is monitored and reported to management and the board.
- Reinsurers are evaluated regularly for financial strength.
- Information systems are accurate, dependable and validated.

**2. Market Risk** – Movement in market rates or prices — such as interest rates, foreign exchange rates or equity prices — that adversely affect the reported and/or market value of investments.

*Risk Areas to Consider:*

- Income on investments.
- Composition and level of primary asset classes that are susceptible to changes in value (e.g., derivative instruments, as well as policy, mortgage and collateral loans) due to changes in:
  - Stock markets.
  - Interest rates.
  - Currency exchange rates.
  - Inflation.
  - Industry sectors.
  - Global/national/regional economic conditions.

*Evaluating Market Risk Management Controls (i.e., Effectiveness):*

- Policies established by management and the board reflect an understanding of managing this risk (management overrides are prohibited).
- The process of managing this risk is effective and proactive (e.g., scenario impact modeling).
- Information systems are accurate, dependable and validated.

**3. Pricing and Underwriting Risk** – Pricing and underwriting practices are inadequate to provide for risks assumed.

*Risk Areas to Consider:*

- Composition and amount of growth in primary lines of direct, ceded and assumed business by state/territory/distribution channel.
- New and/or discontinued products.
- Primary challenges to success.
- Reliance on asset returns to cover underwriting losses.
- Use of managing general agents or other concentration of writings.
- Underwriting performance of agents, brokers and sales personnel.
- Utilization of reinsurance to generate writing capacity.
- Catastrophe reinsurance program.
- Claim assessments and projections.

*Evaluating Pricing and Underwriting Risk Management Controls (i.e., Effectiveness):*

- Management and the board establish realistic and comprehensive goals/objectives and evaluate results.
- Changes in product pricing/underwriting are justified and reviewed by senior management for adherence to profitability/growth plans and objectives.
- For processes that include underwriting, pricing actuary and claims staff are in place to evaluate new product performance on a timely basis and report findings to management.
- Management overrides to pricing and/or underwriting limits/decisions/policies are reported to the appropriate committee.
- Staff is competent and has appropriate level of experience.
- Utilization of credits and/or discounts is effectively monitored and reported upon.
- There is an active and thorough audit function for the detection of errors, overrides and fraud.
- The plan of reinsurance and its effectiveness is evaluated and reported to the board.
- The risk of catastrophic loss is modeled and assessed periodically and appropriately included in pricing.
- The company is closely monitoring profitability of underwriting and pricing.
- Informational systems are accurate, dependable and validated.

**4. Reserving Risk** – Actual losses or other contractual payments reflected in reported reserves or other liabilities will be greater than estimated.

*Risk Areas to Consider:*

- Lines of business that generate significant reserves, including methods and assumptions.
- Relevance of pooling, as well as external third-party ceded/assumed reinsurance.
- Use of internal vs. external adjusting staff and claim-processing procedures.
- Use of current technology and software.
- Loss adjustment expenses.

*Evaluating Reserving Risk Management Controls (i.e., Effectiveness):*

- Policies established by management and the board reflect a conservative approach toward reserving and reserving practices (management's ability to override the actuary's reserve estimate is limited and reported to the board/responsible committee).
- Historically, reserve levels have developed favorably.
- Staff responsible for recommending financial statement reserve levels is competent and experienced.
- Processes are in place to reliably, accurately and timely evaluate prior and current period reserve levels (direct and net of reinsurance basis) for adequacy, and findings/recommendations are reported to senior management.
- Reinsurance ceded/assumed is considered as a separate component of the reserve.
- Claims adjudication processes are well-documented, internal controls and limits of authority are clear and present, and there is an active audit function for the detection of errors, overrides and fraud.
- Reserving actuary obtains relevant insight from pricing actuary, claims and underwriting staff regarding emerging trends and product dynamics.
- Information systems are accurate, dependable and validated.

**5. Liquidity Risk** – Inability to meet contractual obligations as they become due because of an inability to liquidate assets or obtain adequate funding without incurring unacceptable losses.

*Risk Areas to Consider:*

- Volume and growth of earning assets that are not publicly traded or do not lend themselves to securitization.
- Assessment of impaired securities (bonds, stocks, etc.).
- Investments in derivatives, securities lending and real estate.
- Sources of liquidity that are external to the insurer (particularly those available for emergencies).
- Extent of illiquid investments in affiliates (to include in working capital), including joint ventures, partnerships and limited liability companies.
- Policyholder dividends.
- Results of actuarial cash flow testing.

*Evaluating Liquidity Risk Management Controls (i.e., Effectiveness):*

- Policies (to include investment policy) established by management and the board reflect an understanding of managing this risk.
- Asset liability matching (ALM) analysis (i.e., scenario testing) is performed regularly for trends and reported to senior management and the board.
- Access to outside sources of liquidity (including affiliates) is adequate and available, particularly in emergencies.
- Liquidity considerations are factored into product design.
- All levels of management (i.e., short-term cash, product actuaries, product and portfolio managers) are aware of the business activities that can trigger an adverse liquidity condition.

**6. Operational Risk** – Operational problems, such as inadequate information systems, breaches in internal controls, lack of internal controls over financial reporting, fraud or unforeseen catastrophes will result in a disruption in business and financial loss.

*Risk Areas to Consider:*

- Incorporation of the internal audit function and program.
- Monitoring and evaluation of financial and administrative internal controls, as well as operational risks.
- Volume and complexity of transactions in relation to systems and hardware capacity and development.
- Internal controls to safeguard human, facility and financial assets, including antifraud initiatives and compliance with anti-money laundering requirements.

- Status of disaster recovery and business-continuity programs.

*Evaluating Operational Risk Management Controls (i.e., Effectiveness):*

- Policy established by the board and/or senior management reflects an understanding of this risk.
- Programs are in place to identify, monitor and evaluate operational risk.
- The audit function is qualified and possesses (or can obtain) the resources to accomplish its charter and implement the audit plan.
- Internal financial and administrative controls are monitored for effectiveness and completeness.
- The disaster recovery plan has been tested.

**7. Legal Risk** – Non-conformance with applicable laws, rules, regulations, prescribed practices or ethical standards in any jurisdiction in which the entity operates will result in a disruption in business and financial loss.

*Risk Areas to Consider:*

- A process with assigned responsibilities is in place at the direction of senior management and the board of directors.
- Current litigation and or investigation.
- Sanctions or fines ongoing or over the past three years regarding compliance with either state or federal laws and/or regulations (including holding company considerations).
- Compliance with:
  - Company directives for insurance contracts, underwriting and investment decisions
  - NAIC Statutory Accounting Principles and tax treatments
  - State prescribed practices

*Evaluating Legal Risk Management Controls (i.e., Effectiveness):*

- Reporting of compliance exceptions to management and the board.
- Communication of compliance expectations (e.g., code of conduct, conflicts of interest) throughout the organization and distribution channels.
- Involvement of legal counsel with changes to products and new product development.
- Process and reporting of changes to regulatory requirements, litigation not in the normal course of claims-paying activities (includes disputes with reinsurers).

**8. Strategic Risk** – Inability to implement appropriate business plan, to make decisions, to allocate resources or to adapt to changes in the business environment will adversely affect competitive position and financial condition.

*Risk Areas to Consider:*

- Marketplace.
- Competition and benchmarking, as well as financial projections and economic forecasts.
- Growth and mix of business.
- Experience level of management and the board of directors.
- New and/or discontinued products/territories/distribution channels.
- Use of technology.
- Regulatory climate.
- Insurance holding company considerations.

*Evaluating Strategic Risk Management Controls (i.e., Effectiveness):*

- Historical and current success/failure in accomplishing stated strategic goals and operating/financial plans.
- Strategic goals (and the plans to implement them) and corporate culture are effectively communicated and applied throughout the organization.
- Initiatives and plans are well conceived, risks involved are well understood and deliberated upon by management and the board.
- Risk management systems/processes are in place to evaluate results in relation to plan expectations.

- Access to capital, particularly in emergency situations.
- Assignment of responsibilities is clear and compensation is tied to achievement.

**9. Reputation Risk** – Negative publicity, whether true or not, causes a decline in the customer base, costly litigation and/or revenue reductions.

*Risk Areas to Consider:*

- Customer service, current negative publicity and market conduct compliance.
- Antifraud initiatives and disaster recovery.
- Stability of financial strength ratings.
- Highly visible litigation and occurrence of same over the past three years.
- Marketing approach toward creating a positive brand relationship with the public and distribution force.
- Procedures used for claim processing.

*Evaluating Reputation Risk Management Controls (i.e., Effectiveness):*

- Establishment of policies/procedures by management and the board to respond to adverse publicity (include history of performance).
- Relationship with community (include distribution force).
- Contingency plans to mitigate risk in the event of a crisis.
- Process of disclosing financial performance to the public and distribution force.

## EXHIBIT M

# UNDERSTANDING THE CORPORATE GOVERNANCE STRUCTURE

The purpose of this exhibit is to assist the examiner in documenting the understanding and assessment of an insurer's board of directors, senior management and organizational structure, as well as a review of the risk management function. A favorable overall assessment of governance does not, by itself, serve to reduce the scope or extent of examination procedures; rather, specific governance controls need to be assessed for their adequacy of the management of specific risks, in conjunction with other controls designed to manage the same.

### A. ASSESSING THE BOARD OF DIRECTORS

An assessment of the board of directors may be determined through discussions with the board of directors and through gaining an understanding of the board's oversight role. As a general guideline, the following areas should be considered in the assessment of the board of directors:

1. Are membership criteria and terms for the board of directors sufficient to enable the effective monitoring and oversight of management?
2. Does the board of directors effectively monitor and oversee management activities?
3. Is the board of directors sufficiently independent from management such that, when necessary, difficult and probing questions are raised?
4. What is the frequency and timeliness with which meetings are held with chief financial and/or accounting officers, internal auditors and external auditors?
5. Is the information provided to the board of directors or committee members sufficient and timely enough to allow monitoring of management's objectives and strategies, the entity's financial position and operating results, and terms of significant agreements?
6. Is there a formal process through which the board of directors or audit committee is apprised of sensitive information, investigations and improper acts (e.g., travel expenses of senior officers, significant litigation, investigations of regulatory agencies, defalcations, embezzlement or misuse of corporate assets, violations of insider trading rules, political payments, illegal payments) sufficiently and in a timely manner?

An active and effective board of directors, or underlying committee, provides an important oversight function. In addition, because of management's ability to override system controls, the board of directors plays an important role in ensuring effective internal control, setting the "tone at the top" and setting other management standards that may affect the risk analysis for the company's activities. Key components include:

1. Independence from management such that, when necessary, difficult and probing questions are raised. For example, consider whether:
  - a. The board of directors constructively challenges management's planned decisions (e.g., strategic initiatives and major transactions) and probes for explanations of past results (e.g., budget variances).
  - b. A board of directors that consists solely of an entity's officers and employees (e.g., a small corporation) questions and scrutinizes activities, presents alternative views and takes appropriate action if necessary.
2. The use of board committees, where warranted, by the need for more in-depth or directed attention to particular matters. For example, consider whether:
  - a. Board committees exist.
  - b. They are sufficient, in subject matter and membership, to deal with important issues adequately.
3. The knowledge and experience of directors. For example, consider whether:

- a. Directors have sufficient knowledge, applicable industry experience and time to serve effectively.
4. The frequency and timeliness with which meetings are held with chief financial and/or accounting officers, internal auditors and external auditors. For example, consider whether:
    - a. The audit committee meets privately with the chief accounting officer and internal and external auditors to discuss the reasonableness of the financial reporting process, system of internal control, significant comments and recommendations, and management's performance.
    - b. The audit committee reviews the scope of activities of the internal and external auditors annually.
  5. The sufficiency and timeliness with which information is provided to the board of directors or committee members, to allow monitoring of management's objectives and strategies, the entity's financial position and operating results, and terms of significant agreements. For example, consider whether:
    - a. The board of directors regularly receives key information, such as financial statements, major marketing initiatives, significant contracts or negotiations.
    - b. Directors believe they receive the proper information.
  6. The oversight in determining the compensation of executive officers and head of internal audit, and the appointment and termination of those individuals. For example, consider whether:
    - a. The compensation committee, or board, approves all management incentive plans tied to performance.
    - b. The compensation committee, or board, in joint consultation with the audit committee, deals with compensation and retention issues regarding the chief internal auditor.
  7. The board's role in establishing the appropriate "tone at the top." For example, consider whether:
    - a. The board and audit committee are involved sufficiently in evaluating the effectiveness of the "tone at the top."
    - b. The board of directors takes steps to ensure an appropriate tone.
    - c. The board of directors specifically addresses management's adherence to the code of conduct.
  8. The actions that the board of directors or committee takes as a result of its findings, including special investigations, as needed. For example, consider whether:
    - a. The board of directors has issued directives to management detailing specific actions to be taken.
    - b. The board of directors oversees and follows up as needed.

## B. UNDERSTANDING THE ORGANIZATIONAL STRUCTURE

The organizational structure should not be so simple that it cannot adequately monitor the enterprise's activities, nor so complex that it inhibits the necessary flow of information. Executives should fully understand their control responsibilities and possess the requisite experience and levels of knowledge commensurate with their positions. Key components include:

1. The appropriateness of the entity's organizational structure, and its ability to provide the necessary information flow to manage its activities. For example, consider whether:
  - a. The organizational structure is appropriately centralized or decentralized, given the nature of the entity's operations.
  - b. The structure facilitates the flow of information upstream, downstream and across all business activities.
2. The adequacy of the definition of key managers' responsibilities, and their understanding of these responsibilities. For example, consider whether:
  - a. Responsibilities and expectations for the entity's business activities are communicated clearly to the executives in charge of those activities.
3. The adequacy of knowledge and experience of key managers in light of responsibilities. For example, consider whether:

- a. The executives in charge have the required knowledge, experience and training to perform their duties.
4. The appropriateness of reporting relationships. For example, consider whether:
  - a. Established reporting relationships — formal or informal, direct or indirect — are effective and provide managers with information appropriate to their responsibilities and authority.
  - b. The management of the business activities has access to senior operating executives through clear communication channels.
  - c. The internal audit function reports directly to the board of directors or to the audit committee.
5. The extent to which modifications to the organizational structure are made in light of changed conditions. For example, consider whether:
  - a. Management periodically evaluates the entity’s organizational structure in light of changes in the business or industry.
6. Sufficiency in the number of employees, particularly in management and supervisory capacities. For example, consider whether:
  - a. Managers and supervisors have sufficient time to carry out their responsibilities effectively.
  - b. Managers and supervisors work excessive overtime and/or are fulfilling the responsibilities of more than one employee.

### C. UNDERSTANDING THE ASSIGNMENT OF AUTHORITY AND RESPONSIBILITY

The assignment of responsibility, delegation of authority and establishment of related policies provide a basis for accountability and control, and set forth individuals’ respective roles. Key components include:

1. The assignment of responsibility and delegation of authority to deal with organizational goals and objectives, operating functions and regulatory requirements, including responsibility for information systems and authorizations for changes. For example, consider whether:
  - a. Authority and responsibility are assigned to employees throughout the entity.
  - b. Responsibility for decisions is related to assignment of authority and responsibility.
  - c. Proper information is considered in determining the level of authority and scope of responsibility assigned to an individual.
2. The appropriateness of control-related standards and procedures, including employee job descriptions. For example, consider whether:
  - a. Job descriptions, for at least management and supervisory personnel, exist.
  - b. The job descriptions, or other standards and procedures, contain specific references to control-related responsibilities.
3. The appropriateness of staff size, particularly with respect to information systems and accounting functions, with the requisite skill levels relative to the size of the entity and nature and complexity of activities and systems. For example, consider whether:
  - a. The entity has an adequate workforce — in numbers and experience — to carry out its mission.
4. The appropriateness of delegated authority in relation to assigned responsibilities. For example, consider whether:
  - a. There is an appropriate balance between authority needed to “get the job done” and the involvement of senior personnel where needed.
  - b. Employees at the appropriate level are empowered to correct problems or implement improvements, and empowerment is accompanied by appropriate levels of competence and clear boundaries of authority.

## D. ASSESSING MANAGEMENT COMPETENCE

A quality assessment of the board of directors and management may be determined through discussions and observations of the governance processes. As a general guideline, the following areas should be included in the assessment of management competence.

1. How long has key management been with the company in their current positions, and what specific industry experience do they have?
2. Has there been significant turnover in management?
3. Have members of management ever been officers, directors, trustees, key employees or controlling stockholders of an insurance company that, while they occupied any such position or served in any such capacity with respect to it:
  - a. Became insolvent or was placed in conservation;
  - b. Was placed into supervision or rehabilitation;
  - c. Was enjoined from, or ordered to cease and desist from, violating any securities or insurance law or regulation: or
  - d. Suffered the suspension or revocation of its certificate of authority or license to do business in any state?

In addition to the assessment of management competence, examiners should make an assessment of management's performance. The following areas should be considered when assessing management performance.

1. Does management periodically review information to adequately assess the impact of changes in competition, technology, regulation, environment and general economic trends that may impact the company's business?
2. Does management have adequate financial and operating information to identify trends or variations from budgets that may impact the statutory financial statements?
3. Does management effectively analyze and investigate financial and operating information and trends such that significant adverse trends or misstatements in the Annual Statement could reasonably be expected to be identified and rectified on a timely basis?
4. Do management, supervisors and agents have appropriate knowledge and experience to capably and effectively administer management's policies and procedures?
5. Does the company maintain effective controls to ensure that potential short-term liquidity problems, long-term capital needs and other significant fund management variations/needs are identified and rectified on a timely basis?
6. Do adequate physical safeguards exist over company assets, and are all officers and their employees appropriately bonded (see Exhibit R for assistance)?
7. Does management have a positive attitude toward internal controls (including controls over the information systems)?
8. Does management have adequate financial and operating information to identify, on a timely basis, potential liabilities, commitments and/or contingencies that may require recording and/or disclosure in the Annual Statement?

As an expansion of the sample evaluative guidance above, the philosophy and operating style of management will normally have a pervasive effect on an entity. These are intangibles, but one can look for positive and negative signs. Key components include:

1. The nature of business risks accepted (e.g., whether management often enters into particularly high-risk ventures or is extremely conservative in accepting risks). For example, consider whether:
  - a. Management moves carefully, proceeding only after carefully analyzing the risks and potential benefits of a venture.
2. Personnel turnover in key functions (e.g., operating, accounting, information systems, internal audit). For example, consider whether:
  - a. There has been excessive turnover of management and supervisory personnel.
  - b. Key personnel have quit unexpectedly or on short notice.
  - c. There is a pattern to turnover (e.g., inability to retain key financial or internal audit executives) that may be an indicator of the emphasis that management places on control.
3. Management's attitude toward the information systems and accounting functions, and concerns about the reliability of financial reporting and safeguarding of assets. For example, consider whether:
  - a. The accounting function is viewed as a necessary group of checks and balances, or as a vehicle for exercising control over the entity's various activities.
  - b. The selection of accounting principles used in financial statements always results in the highest reported income.
  - c. Operating unit accounting personnel also have the responsibility to report to or communicate with central financial officers.
  - d. Valuable assets, including intellectual assets and information, are protected from unauthorized access or use.
4. Frequency of interaction between senior management and operating management, particularly when operating from geographically removed locations. For example, consider whether:
  - a. Senior managers frequently visit subsidiary or divisional operations.
  - b. Group or divisional management meetings are held frequently.
5. Attitudes and actions toward financial reporting, including disputes over the application of accounting treatments (e.g., selection of conservative vs. liberal accounting policies; whether accounting principles have been misapplied, important financial information not disclosed, or records manipulated or falsified). For example, consider whether:
  - a. Management avoids obsessive focus on short-term reported results.
  - b. Personnel do not submit inappropriate reports to meet targets.
  - c. Managers do not ignore signs of inappropriate practices.
  - d. Estimates do not stretch facts to the edge of reasonableness and beyond.

## E. REVIEWING THE RISK MANAGEMENT FUNCTION

A review of the entity's risk management function should be conducted through discussions with senior management and the board of directors and through gaining an understanding of the risk management function including inspection of relevant risk management documentation. As a general guideline, the following areas should be considered in conducting a review of the risk management function:

1. What kind of risk-management culture is demonstrated throughout the organization? What does the culture indicate regarding the importance of risk management to the organization?
2. How are risk tolerances and "appetites" defined and communicated throughout the organization?
3. How are existing risks identified, tracked, assessed and mitigated?
4. How are emerging and/or prospective risks identified, tracked, assessed and managed?

5. How does the organization use the risk information it gathers to determine its capital needs? Are internal models utilized and regularly updated to ensure appropriate risk-management decisions?
6. How are responsibilities for risk-management functions delegated and monitored within the organization?
7. What is the involvement of the board of directors in the risk management function of the organization?

An effective risk management function is essential in providing effective corporate governance over financial solvency. During the latter phases of the risk-focused examination, the examiner will document a review of the entity's individual risk-management functions within the system. However, during a review of the entity's corporate governance the examiner should document the review of the entity's risk-management function as a whole, as well as its place and importance in the entity's corporate governance structure.

## F. DOCUMENTATION

The examination team should document its understanding and assessment of the entity's governance, as well as its assessment on the related impact on the examination. This summary should include a description of any unique examination procedures, including special inquiries that are considered necessary to any significant risks identified as a result of the assessment.

The Risk Assessment Matrix, as the central documentation tool, should be utilized for the identification and assessment of risks. Documentation on the assessment of management is at the discretion of the examiner. For smaller, low-risk insurance companies, a memorandum may be sufficient documentation. For example, a memorandum could summarize the attributes and techniques supporting the examiner's overall evaluation, any resulting examination scope implications and the approach used to validate the more significant attributes and techniques.

## EXHIBIT V PROSPECTIVE RISK ASSESSMENT

The concept of risk on a risk-focused examination encompasses not only risks as of the examination date, but also risks which extend or commence during the time in which the examination was conducted, as well as risks which are anticipated to arise or extend past the point of examination completion. As such, consideration of “prospective risks” (including moderate or high residual risks existing at the balance sheet date that will impact future operations, risks anticipated to arise due to assessments of company management and/or operations or risks associated with future business plans of the company) is an intrinsic element of a risk-focused examination and should occur throughout all phases of the examination process.

This exhibit has been included as a guide for examiners to utilize in documenting their consideration of prospective risks that are overarching and relate to more than one specific key activity of the company. In addition, this exhibit includes example categories of general prospective risks that impact insurers.

In completing this exhibit and documenting the examiner’s consideration of prospective risks throughout the examination process, the examiner should conduct an evaluation and, if possible, conduct examination procedures on the noted prospective insolvency risks to assess the degree of risk present and recommend future monitoring. Throughout the examination process and at the conclusion of the exam, the examiner should communicate with the department’s financial analysts to keep them informed of the identified prospective risks and examiner assessments.

### **Consideration of Prospective Risks – Risks Identified During Phases of Risk-Focused Examination:**

As discussed throughout this Handbook guidance, the consideration of prospective risks should occur throughout each phase of the examination process. During Phase 1 of the examination, the examination team should have completed a high-level review of the company to ensure that any solvency concerns — including those that commenced or extended after the examination date or those that are anticipated to commence or extend beyond the examination completion date — are considered and addressed during the course of the examination. If the examiner identifies a prospective risk that relates to one specific key-activity of the company, this prospective risk should be documented in the corresponding risk matrix for that key-activity and treated the same as all other identified risks. However, if the examiner identifies a prospective risk that does not relate to a specific key activity identified, or relates to more than one key activity identified, the examiner should utilize this exhibit to document the process to consider these prospective risks.

For the prospective risks to be documented in this exhibit, the process to consider these prospective risks should generally reflect the risk-focused examination phases. Similar to Phase 2 of the examination, the examiner should identify inherent risks that may result in significant prospective solvency risks to the company. As outlined in Phase 3, the examiner should evaluate the impact of existing risk mitigation strategies to assess whether the potential solvency risk is reduced through current internal controls and operations of the company. Following this evaluation, the examiner should assess the residual risk that remains for each of the general prospective risks identified in the exhibit. Finally, the examiner should perform examination procedures (if possible) to evaluate the prospective risk further or determine steps for ongoing monitoring and/or making recommendations to the company as outlined in Phases 5–7.

Examiners may use the following worksheet to document the prospective risks identified and the impact of existing risk mitigation strategies to assess the extent that the prospective risks identified are mitigated through current company operations. (It is presumed that those items noted with moderate or high residual risks would often be considered prospective risks that may impact future company operations.)

<b>Prospective Risk Identified</b>	<b>Risk Mitigation Strategies</b>	<b>Prospective Residual Risk Assessment</b>	<b>Examination Procedure and/or Communication with Analysts</b>
<i>Prospective Risk 1: (Example) – In order to improve the company’s market share, the company is currently implementing a plan to extend their auto insurance operations into five new states.</i>	<i>The company has established a focus group to assess the impacts of the expansion, as well as to assess and monitor the surplus necessary to accept this new business.</i>	<i>Moderate – The company appears to be addressing key concerns of the planned expansion with the establishment of a focus group. However, this process cannot fully reduce the high inherent risk of expanding operations into several new territories.</i>	<i>Risk was communicated to financial analysts on 5/30/XX. Analysts were requested to specifically evaluate the increased premiums and related surplus levels. In addition, analysts plan to follow up with the company on its progress in extending its business.</i>
<i>Prospective Risk 2:</i>			
<i>Prospective Risk 3:</i>			
<i>Prospective Risk 4:</i>			

**Consideration of Prospective Risks – Common Areas of Concern:**

The prospective risk categories provided within this exhibit are not designed to be an all-inclusive list and might not apply to all insurance companies under examination. The examiner’s understanding of the company obtained in Phase 1 should be utilized to determine whether risks in these categories might be applicable to the company. The company will likely face additional prospective risks that do not fit within the categories in this exhibit.

<b>Prospective Risk Category</b>	<b>Comments</b>
Merger and Acquisition Activity	If applicable, review the company’s process to identify and perform due diligence on potential acquisitions. In addition, consider reviewing the company’s process to integrate acquired entities and business into its systems.
Product Development	If applicable, review and assess the company’s process to identify, develop, price and market new products in accordance with the company’s strategy and business needs.
Legal and Regulatory Changes	If applicable, review how the company identifies, monitors and addresses changes to the legal and regulatory environment it operates within.
HR/Personnel Risks	If applicable, review and assess the company’s HR processes to identify, mitigate and monitor risks related to hiring, managing, retaining and terminating personnel in accordance with company needs.
Strategic Planning	If applicable, review and assess the company’s processes for strategic planning to determine whether the company regularly analyzes its strengths and weaknesses, as well as opportunities and threats, on an ongoing basis. In addition, it might be appropriate to review the company’s process to update its overall business plan on a regular basis.
Compensation Structure	If applicable, review the company’s process for developing, monitoring and adjusting its compensation structure to ensure that employees are appropriately compensated without creating an incentive to misrepresent financial results.
Rating Agency Downgrade	If applicable, review the company’s process to monitor and prepare for potential adverse changes in its credit ratings. If a future rating agency downgrade is deemed likely, consider whether the company is adequately prepared to handle the results of such a downgrade.
Costs of Capital	If applicable, review the company’s access and ability to obtain capital, reinsurance and letters of credit, if necessary, to meet funding and risk diversification needs.