

CONSULTATION PAPER

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Enterprise Risk Management for Insurers

MAS

Monetary Authority of Singapore

PREFACE

1 In line with the increasing importance of Enterprise Risk Management (“ERM”) in a more complex risk environment, MAS has developed a set of ERM requirements for the insurance industry. This consultation paper sets out the proposed ERM requirements to be applied.

2 MAS invites interested parties to forward their comments on the proposals set out in this paper. Electronic submission is encouraged. Please submit your comments by 28 February 2013 to:

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Please note that all submissions received may be made public unless confidentiality is specifically requested for the whole or part of the submission.

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1 INTRODUCTION

1.1 In addition to the review of the current Risk-Based Capital (“RBC”) regime, MAS is looking to improve industry standards on ERM practices. This will enhance an insurer’s understanding of the risks and its potential impact on business, and focus management actions on implementing risk management policies and practices to ensure ongoing business viability in line with long term business goals and strategy, and its capital resources. This also translates to a more robust solvency assessment, and further underpins the supervisory aim of protecting the interests of policy owners. Under the Consultation Paper on Risk-Based Capital Framework for Insurers in Singapore (“RBC 2 Review”) released in June 2012, ERM and the need for an insurer to carry out its own risk and solvency assessment (“ORSA”) were mentioned as part of MAS’ continuing efforts to enhance risk management and capital management in an integrated and enterprise-wide manner.

1.2 MAS had issued a set of Guidelines on Risk Management Practices¹, with the objective to provide all financial institutions supervised by MAS with guidance on sound risk management practices. These Guidelines were organised by risk types and cover a range of risks and functions such as credit risk, market risk, internal controls, operational risks, and insurance core activities such as product development, pricing and underwriting. Traditional risk management considers each risk on its own without taking into account, the interdependencies of the various relevant and material risks. In addition, it places little or no emphasis on risks arising from an insurer’s association with other entities within the same group. These can be insurance or non-insurance, as well as regulated or non-regulated entities. ERM goes beyond this conventional approach, requiring insurers to consider its risk-taking from an enterprise-wide perspective. It requires the consideration of risk management together with capital management at an enterprise level, hence ensuring that an insurer is robust and solvent, both at the solo and group-level basis.

1.4 ERM involves the process of identifying, assessing, measuring, monitoring, controlling² and mitigating risks in respect of the insurance enterprise as a whole. It involves the self-assessment of all reasonably foreseeable and material risks that an insurer faces, and their inter-relationships, providing a link between ongoing

¹ Please refer to www.mas.gov.sg/Regulations-and-Financial-Stability/Regulatory-and-Supervisory-Framework/Risk-Management/ for the full set of guidelines, first issued in February 2006.

² Risk control and mitigation as part of an effective risk management process are outlined in paragraph 3.1 of Guidelines on Risk Management Practices for Insurance Business – Core Activities. Whereas “controlling risks” means managing the relevant risks to fall within the insurer’s risk appetite, “mitigating risks” involves reducing of the level, or avoidance of the relevant risks.

operational management of risk and longer-term business goals, strategies and capital needs.

1.5 The ERM requirements and guidelines set out in this Notice expands MAS' expectations on how insurers identify and manage interdependencies between key risks, and how these should be translated into strategic management actions and capital planning.

2 SCOPE OF APPLICATION OF ERM REQUIREMENTS

2.1 Under the existing RBC framework, all registered insurers, whether local or foreign-incorporated, operate based on a fund concept, with solvency and capital requirements imposed on their funds and operations in Singapore. As ERM requires an insurer to integrate its risk management with its capital management, it is therefore relevant that ERM exists in each of these entities.

2.2 However, MAS has considered that, for captive insurers and marine mutual insurers, due to their business of underwriting in-house risks or risks belonging to members of their association respectively, the implementation of an ERM framework is less necessary. In this regard, MAS proposes to apply ERM requirements to all registered insurers, except for captive insurers and marine mutual insurers.

Proposal 1

MAS proposes to apply the ERM requirements to all registered insurers, except captive insurers and marine mutual insurers.

3 ELEMENTS OF THE ERM FRAMEWORK

3.1 ERM is the process of identifying, assessing, measuring, monitoring, controlling and mitigating risks in respect of the insurance enterprise as a whole. It involves regular self-assessments of all reasonably foreseeable and material risks that an insurer faces, including their inter-relationships, and the maintenance of a link between ongoing risk management and longer-term business goals, strategies and capital needs.

3.2 The ERM framework established by each insurer should be set according to the nature, scale and complexity of its business and the risks it bears, with a focus on the link between risk management and the management of capital adequacy and solvency. The following sections outline the elements of the ERM framework which insurers will be required to adopt as part of its risk management process.

**(a) Adoption of/ Reliance on ERM Framework from Parent Company/
Head Office**

3.3 MAS recognises that the establishment of an ERM framework is often led by the ultimate parent of a group and cascaded to all insurance entities within the group. Hence, for insurers which are part of a group³, MAS proposes to allow these insurers to rely on their groups' ERM frameworks to meet the proposed ERM requirements. However, an insurer should ensure that the risks identified and the techniques used to measure the risks under the group's ERM framework, are appropriate and adequate to meet the Singapore entity's own risk management needs.

Proposal 2

For an insurer which is part of a group that maintains a group-wide ERM framework, MAS proposes to allow the insurer to rely on its group's ERM framework to meet the ERM requirements, subject to the insurer's own assessment of the relevance of the risks identified and the appropriateness and adequacy of techniques employed to measure the risks.

(b) Risk Identification and Measurement

3.4 A robust ERM framework requires each insurer to have a thorough understanding of its risk types, their characteristics and interdependencies, the sources of risks and their potential impact on its business. Insurers should exhibit an understanding of their key risks and risk profile, and demonstrate a willingness and ability to deal with risks that exceeded its risk tolerance.

3.5 In order to maintain an updated view of its risk profile, an insurer needs to conduct regular self-assessments that identify and quantify all reasonably foreseeable and material risks that it currently faces or is likely to face.

3.6 Such self-assessments should consider the likelihood and potential impact of each risk to the insurer under a range of scenarios. At the very least, they should include the following key risks which are common across the industry: insurance, market, credit, operational and liquidity risks. Insurers who are part of a group should also consider additional risks arising due to its membership to a group.

³ "group" means the group of companies, in accordance with the accounting standards made or formulated under the Accounting Standards Act, to which the insurer belongs

3.7 In conducting this self-assessment, an insurer needs to assess the source(s) of each risk, the magnitude of its potential impact, and the correlation between different risk types. The techniques used for such risk identification and measurement will vary between insurers. However, the sophistication of techniques used by an insurer has to be appropriate to the nature, scale and complexity of the insurer's risk and business profile.

3.8 Insurers should support the risk identification and measurement processes with adequate documentation. Documentation helps to raise awareness, ensure consistency in the processes, and provide clarity on the roles of various parties within the company.

Proposal 3

MAS proposes to require each insurer to establish an ERM framework which provides for the identification and quantification of risks 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 are adequate for risk and capital management, and for solvency purposes.

The ERM framework shall also identify and address all reasonably foreseeable and material risks to which the insurer is, or is likely to become, exposed. Such risks shall include, at a minimum:

- a) insurance risk
- b) market risk
- c) credit risk
- d) operational risk
- e) liquidity risk; and
- f) additional risks arising due to membership of a group (if applicable).

The ERM framework shall also be supported by accurate documentation, providing detailed descriptions and explanations of the risks covered, the measurement approaches used and the key assumptions made.

(c) Risk Tolerance Statement

3.8 A risk tolerance statement of an insurer sets out the maximum level of risk to which it is willing and able to be exposed, taking into account its financial strength, the nature, scale and complexity of its business, the liquidity and asset transferability

of its business, and the physical resources it needs to adequately manage its risks.

3.9 In order to be effective, the risk tolerance statement needs to take into account all relevant categories of risks, and translate these into appropriate overall quantitative and qualitative risk tolerance limits which are then embedded in an insurer's daily operations via its risk management and control policies and procedures. These limits serve as clear guidance to operational management on the level of risk to which the insurer is prepared to be exposed given its financial resources.

Proposal 4

MAS proposes to require each insurer to establish and maintain a risk tolerance statement which sets out its overall quantitative and qualitative risk tolerance limits, taking into account its financial strength and long term business goals.

(d) Risk Management Policy

3.11 An insurer's risk management policy is an integral part of its ERM framework. It includes policies on the insurer's underwriting, product and pricing, and investment management. It outlines how all relevant and material categories of risk to the insurer are to be managed, assessed and monitored, both in the insurer's business strategy and its day-to-day operations.

3.12 One of the significant contributors to an insurer's risk profile is the risks arising from its core activity of taking on insurance business. Hence, an insurer should pay special attention to its risk management policies in relation to insurance risks. These shall address areas such as the underwriting process, determination of the terms and conditions for risk acceptance, claims settlement and expense control, as well as the transfer of insurance risk through reinsurance or other forms of risk transfer.

3.13 The requirements of risk management in relation to investments are addressed in the Consultation Paper on Review of Requirements on Investment Activities of Insurers, issued in January 2013.

Proposal 5

MAS proposes to require each insurer to have a risk management policy which, at a minimum encompasses the following areas:

- a) the insurer's policy for managing the risks to which it is exposed, including underwriting and investment risks;
- b) the insurer's policies towards risk retention, risk management strategies including reinsurance and the use of derivatives, diversification and asset-liability management. For insurance risks, particular attention should be paid to risk retention and risk transfer, as well as take into account of the effectiveness of risk transfer under scenarios of financial distress;
- c) the insurer's policy regarding the processes and methods for monitoring risk; and
- d) the relationship between its risk management policy, of the insurer's risk tolerance limits, its management of capital, and its corporate objective and strategy (which takes into account current circumstances).

(e) Risk Responsiveness and Feedback Loop

3.14 Internal and external events and developments, as well as the changing interests and expectations of policy owners and other stakeholders can result in changes to an insurer's risk profile and business strategy. It is therefore important that the ERM framework of an insurer is responsive to the environment in which it operates in, and contains mechanisms to incorporate new risks and information on a regular basis.

Proposal 6

MAS proposes to require each insurer to ensure that its ERM framework is responsive to changes in its risk profile, and include mechanisms to incorporate new risks and new information on a regular basis. A review of the ERM framework to ensure this should be carried out at least every quarter.

In addition, there should be in place a feedback loop to enable the insurer to monitor and respond in a timely manner to changes in its risk profile.

4 OWN RISK AND SOLVENCY ASSESSMENT ("ORSA")

4.1 The ORSA is a self-driven process by the insurer to assess the adequacy of its risk management and its current, and likely future, solvency position given the

existing and potential risks identified. As part of the ERM framework, each insurer should undertake its ORSA regularly, giving due consideration to the dynamic interactions between risks, and the links between risk management, business strategy and capital management. The Board and Senior Management of the insurer are responsible for the ORSA process.

4.2 In conducting its ORSA, an insurer shall consider all material risks that may have an impact on its ability to meet its obligations to policy owners, including future changes in economic conditions or other external factors. ORSA should also be performed on a sufficiently frequent basis so that it continues to provide relevant and timely information for management and decision-making processes. An insurer should also regularly reassess the causes of risk and the extent to which particular risks are material, and significant changes in the risk profile of an insurer should prompt it to undertake a new ORSA.

4.3 The ORSA should not be a one-off exercise or single report, but rather a well documented process that forms an integral part of an insurer's management process and decision-making framework.

Proposal 7

MAS proposes to require each insurer to perform its ORSA, at least annually, to assess the adequacy of its risk management, as well as its current, and projected future, solvency position. When undertaking its ORSA, each insurer will be required to document the rationale of the decisions, considerations and assumptions made; calculations related to its decisions, considerations and assumptions; and action plans arising from its ORSA.

The ORSA shall encompass all reasonably foreseeable and relevant material risks including, at a minimum:

- a) insurance risk
- b) credit risk
- c) market risk
- d) operational risk
- e) liquidity risk
- f) additional risks arising due to membership of a group, if applicable.

The ORSA shall also identify the relationship between risk management and the level and quality of financial resources that is needed and available.

Proposal 8

MAS proposes to require each insurer, as part of its ORSA, to:

- a) determine the overall financial resources it needs to manage its business given its own risk tolerance and business plans, and to demonstrate that regulatory requirements are met;
- b) base its risk management actions on consideration of its economic capital, regulatory capital requirements and financial resources; and
- c) assess the quality and adequacy of its capital resources to meet regulatory and economic capital requirements.

4.4 MAS recognises that, due to differences in the nature, scale and complexity of insurers in the market, the costs involved in the calculation of economic capital may outweigh the benefits especially for the smaller insurers, or insurers with a simple business mix. Hence, MAS intends to accord such insurers with the flexibility to perform a simplified economic capital calculation in its ORSA. Such a simplified calculation could, for instance, utilise the regulatory capital requirements as a basis for the insurer's economic capital.

Proposal 9

MAS proposes to allow insurers to adopt a simplified approach to economic capital calculations if based on the nature, scale and complexity of their business and risks, the insurer deems this to be appropriate. The reasons should be clearly articulated and justified in the ORSA.

a) Continuity Analysis

4.5 When assessing its overall solvency needs as part of its ORSA, an insurer should subject all identified relevant and material risks to rigorous scenario-testing. Continuity analysis involves an insurer demonstrating its ability to manage its risks over a longer term under a range of plausible adverse scenarios. This will aid it in determining how to respond to unexpected changes in economic, demographic, legal, and other developments.

4.6 A continuity analysis should be based on a time horizon which matches the insurer's business planning horizon – this is typically expected to be between 3 to 5 years. Consideration should be given to the effects of new business plans, product design and pricing as well as embedded guarantees and options in determining the insurer's capital requirements over the time horizon. Through its continuity analysis, an insurer will be better able to link its current financial position with its future business plan projections and ensure its financial viability over the stated time horizon.

4.7 Overall, continuity analysis is to be used by an insurer to assess the impact of possible changes in its business or risk profile on its level of economic and regulatory capital requirements.

Proposal 10

MAS proposes to require an insurer, as part of the continuity analysis, to identify likely causes that may result in its business failure through the use of reverse stress testing and take the necessary actions to manage this risk. "Business failure" is defined as:

- a) the insurer's solvency position falling below any regulatory capital requirement;
- b) the insurer's capital position falling below any internal target; or
- c) the insurer being wound up.

As part of the insurer's identification of causes for business failure, it shall maintain contingency plans and procedures for use in a going concern or winding-up situation, to identify precautionary, countervailing and off-setting measures that could be taken.

4.8 An insurer's continuity analysis will also involve reverse stress testing to identify scenarios that are likely to cause the insurer to fail. Such possibilities warrant an insurer to maintain contingency plans and procedures for use in going concern or winding-up situations.

4.9 The continuity analysis and stress tests based on self-constructed scenarios, required as part of ORSA, will complement the requirements under MAS Notice 312 of stress testing which in future will focus on prescribed scenarios. There would be little overlap of the stress testing requirements between the two.

b) Submission of the ORSA Report to MAS

4.10 A report on the company's last performed ORSA, with approval and deliberation by the insurer's Board, is to be submitted to MAS. For a Tier 1 insurer⁴, submission is to be on an annual basis, whereas for a Tier 2 insurer⁴, submission is to be once every three years. This report will form part of MAS' supervisory assessment of the insurer.

Proposal 11

MAS proposes to require a Tier 1 insurer to submit its latest ORSA report, together with the minutes of the Board's deliberation and approval of the report, on an annual basis. The first report is to be submitted by 30 April 2014 and annually thereafter. For a Tier 2 insurer, the first report is to be submitted by 30 April 2015 and by 30 April of every third year thereafter (i.e. the next report is to be submitted by 30 April 2018).

5 ERM REQUIREMENTS FOR INSURANCE GROUPS⁵

5.1 An insurance group may have downstream major stakes investments and should establish an ERM framework which takes into account risks arising from all parts of the group, including non-insurance entities (regulated or unregulated) and partly-owned entities. As the controlling entity of a group, its ERM framework should address the direct and indirect interrelationships between its downstream entities. For example, the ERM framework and ORSA should take into account any legally enforceable capital and risk transfer instruments established between the entities in the group, and any constraints in the fungibility⁶ of capital within the group which could affect the assessment of group-wide solvency.

⁴ As spelt out in the Consultation Paper on Corporate Governance for Insurers (dated 22 February 2012)

⁵ MAS is currently reviewing the frameworks for Financial Holding Companies and Insurance Group-wide Supervision. The ERM requirements of such insurers will only be legislated when the frameworks are in place.

⁶ If any of the members are in different jurisdictions, or in a jurisdiction where restrictions on fungibility of capital apply or where there is ring-fencing of policies in participating funds, the assumption of full fungibility may not always be appropriate.

Proposal 12

MAS proposes to extend the ERM requirements laid out in proposals 2 to 11 to all insurance groups. Each of these entities' group ERM framework must take into account risks arising from all parts of the group, including non-insurance entities (regulated or unregulated) and partly-owned entities.

MAS also proposes to require such insurance groups to submit a Group ORSA on an annual basis, in addition to the ORSA report submitted by the local registered insurer. The Group ORSA report shall include identification of material risks, economic and regulatory capital calculations and continuity analysis from a group-wide perspective, whereas the registered insurer's ORSA report comes from a solo perspective.

Deliberation of the Group ORSA report is required by the Board in control of the insurance group.

6 PROPOSED NOTICE AND IMPLEMENTATION TIMELINE

6.1 MAS proposes to issue a new Notice pursuant to s64(2) of the Insurance Act (Cap.142) ("IA") to set out these requirements. The proposed Notice is in Appendix 1. MAS proposes to implement the requirements on 1 January 2014.

Proposal 13

MAS proposes to issue a new Notice on ERM and implement the requirements from 1 January 2014. The proposed Notice, setting out the requirements, is in Appendix 1.

APPENDIX 1

Notice No. : MAS xxx

DRAFT NOTICE

Issue Date : xxxx

ENTERPRISE RISK MANAGEMENT (“ERM”) FOR INSURERS

Introduction

1. This Notice is issued pursuant to section 64(2) of the Insurance Act (Cap. 142) (“the Act”) and comprises both mandatory requirements (Part I) and non-mandatory standards (Part II).
2. This Notice shall be read in conjunction with the provisions of the Act. It is not intended to override any provision of the Act.
3. This Notice applies to any registered insurer (except a captive insurer or a marine mutual insurer).

Background

4. MAS issued a set of Guidelines on Risk Management Practices from 2003 to 2007, with the objective to provide all financial institutions supervised by MAS with guidance on sound risk management practices. These Guidelines are organised by risk types and cover a range of risks and functions such as credit risk, market risk, internal controls, operational risks, insurance core activities such as product development, pricing and underwriting, the role of an institution’s Board of Directors and senior management.
5. The ERM requirements and guidelines in this Notice set out how insurers are to identify and manage interdependencies between key risks, and how these are translated into management actions related to strategic and capital planning matters.
6. ERM is the process of identifying, assessing, measuring, monitoring, controlling and mitigating risks in respect of the insurer, the group which it belongs to and, if applicable the group which it is in control of. It involves the self-assessment of all reasonably foreseeable and relevant material risks that an insurer faces, and their inter-relationships, providing a link between ongoing operational management of risk and longer-term business goals and strategies.
7. Through ERM, an insurer can form a prospective view of its risk profile and capital needs, thus enabling business strategy, risk management and capital allocation to be co-ordinated in order to achieve maximum financial efficiency and adequate protection of its policy owners.

Definition

8. In this Notice-
- (a) “continuity analysis” means an analysis of the insurer's ability to continue in business, whereby the risk management and financial resources required to do so is over a longer time horizon than typically used to determine regulatory capital and solvency requirements;
 - (b) “economic capital” means the capital needed by the insurer to satisfy its risk tolerance and support its business plans and which is determined from an economic assessment of the insurer's risks, the relationship of these risks and the risk mitigation in place;
 - (c) “group” means the group of companies, in accordance with the accounting standards made or formulated under the Accounting Standards Act, to which the insurer belongs;
 - (d) "marine mutual insurer" has the same meaning as in regulation 2 of the Insurance (General Provisions and Exemptions for Marine Mutual Insurers) Regulations 2007;
 - (e) "mutual insurance" has the same meaning as in section 85 (1) of the Marine Insurance Act;
 - (f) “Tier 1 insurer” and “Tier 2 insurer” have the same meanings as in regulation 4 of the Insurance (Corporate Governance) Regulations 2005.
9. The expressions used in this Notice shall, except where expressly defined in this Notice or where the context otherwise requires, have the same respective meanings as in the Act.

Part I – Mandatory Requirements

10. Diagram 1 illustrates the key features of an ERM framework and the various interactions amongst the key components.

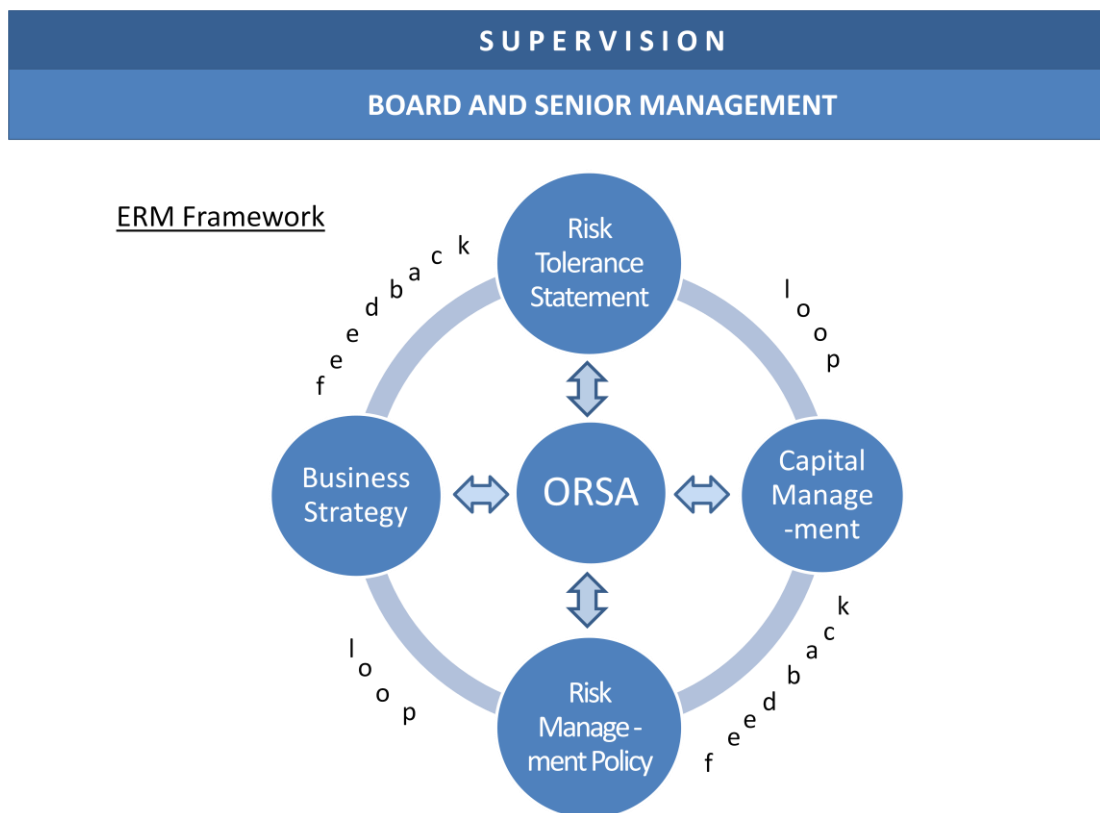


Diagram 1 : Key features of ERM framework

Reliance on group’s ERM framework

11. The insurer may adopt the ERM framework of the group, as long as the ERM framework fulfils the mandatory requirements spelt out in this Notice.
12. If the insurer is using the group’s ERM framework, the framework shall be customised to the unique and particular requirements of the insurer.

Risk identification and Measurement

13. The insurer shall establish an ERM framework which:
- (a) provides for the identification and quantification of risks using techniques appropriate to the nature, scale and complexity of the risks the insurer bears; and
 - (b) addresses risk, solvency and capital management.

14. The insurer shall ensure that its ERM framework identifies and addresses all reasonably foreseeable and relevant material risks to which the insurer is, or is likely to become, exposed. Such risks shall include insurance risk, market risk, credit risk, operational risk and liquidity risk. Reasonably foreseeable and relevant material risks may also include, for example, legal risk and risk to the reputation of the insurer.
15. After identifying the risks, the insurer shall highlight significant risks and possible key leading indicators to its senior management regularly but no less than once every quarter. For example, if liquidity risk was identified as a significant risk, the insurer may decide to use the ratio of liquid assets to total assets of a life fund as one of its key leading indicator for this significant risk. The insurer shall also update its Board and senior management of its risk profile regularly but no less than once a year. When necessary, such as during financial distress, the updating to the Board and senior management should be on a more frequent basis.
16. The insurer shall take into account “group risk” which arises as a consequence of being a member of a group. “Group risk” includes the risk that the insurer may be adversely affected by an occurrence (financial or non-financial) in another entity of the group it belongs to. It also includes the risk that the financial stability of the group as a whole or of any of the individual insurance entities within the group, being adversely affected by an event in any one of the entities in the group, a group-wide occurrence or an event external to the group. Group risk may also 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. In managing its risks, the insurer shall consider the inter-relationships it has with other members of the group including aspects of control, influence and interdependence.
17. Assumptions that are implicit in the solvency assessment of the insurer may not apply at the group level because of the legal separation of group members. The insurer’s ERM framework shall take into account the constraints in its assumptions (e.g. fungibility of capital⁷), with regard to the group.
18. The insurer shall consider the causes of different risks and their impact, and assess the relationship between risk exposures. This includes assessing external risk factors which, if they were to crystallise, could pose a significant threat to its business. The insurer shall also recognise the limitations of the methods it uses to manage risks, the potential impact these limitations may have and adapt its risk management appropriately. These considerations and recognition of the limitations and their potential impact shall be properly documented by the insurer.
19. The insurer shall support the measurement of its risk with accurate documentation. Such documentation should provide detailed descriptions and explanations of the risks covered, the measurement approaches used and the key assumptions made.

⁷ If the insurer has branches in different jurisdictions, or its parent is in a jurisdiction where restrictions on fungibility of capital apply or where there is ring-fencing of policies in participating funds, the assumption of full fungibility may not always be appropriate.

Risk Management Policy

20. The insurer shall have a risk management policy which outlines how all relevant and material categories of risk are managed, both in the insurer's business strategy and its day-to-day operations.
21. The risk management policy shall, at a minimum, cover the following areas:
 - (a) the insurer's policy for managing the risks to which it is exposed, including underwriting and investment risks;
 - (b) the insurer's policies towards risk retention, risk management strategies including reinsurance and the use of derivatives, diversification and asset-liability management;
 - (c) the relationship between the insurer's risk tolerance limits, regulatory capital requirements, economic capital and the processes and methods for monitoring risk; and
 - (d) how the insurer's risk management is related to its corporate objectives and strategy, taking into account the current circumstances.
22. The insurer shall ensure the policies relating to insurance risks pay 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, as well as take into account of the effectiveness of risk transfer under scenarios of financial distress.
23. The insurer's risk management policy shall clearly address the relationship of pricing, product development and investment management. For example, the interest rate assumption used in pricing need to take into account the investment strategy. It shall also include a category of risk comprising all of the additional group risks the insurer faces as a result of its membership in a group.
24. Where the insurer uses its group's ERM framework, the insurer shall ensure that the risk management policy covers all the risks that are relevant and material to the insurer, and that the policy is clearly defined and understood.
25. The insurer shall, in its risk management policy, use a time horizon which is consistent with the nature of the insurer's risks and business planning horizon.

Risk Tolerance Statement

26. The insurer shall establish and maintain a risk tolerance statement which defines its overall quantitative and qualitative risk tolerance limits, and which takes into account all relevant and material categories of risk and their inter-relationships.
27. The insurer shall incorporate its risk tolerance limits in the setting of its business strategy.

28. The insurer shall embed its defined risk tolerance limits in its daily operations via its policies and procedures to 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.

Risk Responsiveness and Feedback Loop

29. The insurer shall ensure that its ERM framework is responsive to changes in its risk profile, as a result of both internal and external events, as well as to the changing interests and reasonable expectations of policy owners and other stakeholders. The framework shall also include mechanisms to incorporate new risks and new information on a regular basis, and should be reviewed at least every quarter.
30. The insurer shall ensure that an effective early warning system is in place to monitor any potential breaches of risk tolerance limits of the insurer's underlying risk appetite.
31. The insurer shall ensure that as part of its ERM framework, it has in place a feedback loop, which is a process to monitor and respond in a timely manner to changes in its risk profile. Its monitoring processes should take into account reliable information and assess the risks using objective and defined criteria.
32. The insurer shall ensure that it is able to obtain appropriate and good quality information about changes in the risk profile of the group that could affect the insurer's risk profile.

Own Risk and Solvency Assessment

33. The insurer shall perform its own risk and solvency assessment ("ORSA"), at a minimum, annually, to assess the adequacy of its risk management, and current and projected future solvency position with a time horizon which is consistent with that used in its business planning. When undertaking its ORSA, the insurer shall document the rationale, calculations and action plans arising from this assessment.
34. The insurer shall ensure that its Board and senior management take responsibility for the ORSA.
35. The insurer shall design its ORSA such that it will:
 - (a) encompass all reasonably foreseeable and relevant material risks including, as a minimum, insurance, credit, market, operational and liquidity risks and additional risks arising due to membership of a group. The assessment shall identify the relationship between the risks identified as well as the level and quality of financial resources needed and can be made available;
 - (b) consider all material risks that may have an impact on its ability to meet its obligations to policy owners, including in that assessment a consideration of the impact of future changes in economic conditions or other external factors; and

- (c) include all additional risks arising due to membership of the group, to the extent that those risks impact the insurer as appropriate to the nature, scale and complexity of those risks.

Economic and regulatory capital

36. The insurer shall:

- (a) 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 to demonstrate that regulatory requirements are met;
- (b) base its risk management actions on consideration of its economic capital, regulatory capital requirements and financial resources, including its ORSA; and
- (c) assess the quality and adequacy of its capital resources to meet regulatory capital and economic capital requirements.

The insurer, based on its nature, scale and complexity, may justify adopting its regulatory capital, whether in entirety as, or to form the basis of, its economic capital.

37. As part of its ORSA, the insurer shall 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. The insurer shall also assess the appropriateness of its capital resources in supporting its business strategy and enabling it to continue its operations.

Continuity Analysis and Stress Testing

38. The insurer shall undertake periodic, forward-looking continuity analysis that addresses a combination of quantitative and qualitative elements in the medium and longer-term business strategy of the insurer and includes projections of its future financial position and analysis of its ability to meet future regulatory capital requirements.

39. The insurer shall as part of its ORSA, analyse its ability to continue in business, and the risk management and financial resources required to do so, under a range of plausible adverse scenario, over a time horizon needed for effective business planning.

40. In carrying out its continuity analysis, the insurer shall conduct stress testing for each relevant insurance fund maintained under section 17 of the Act by projecting the financial, economic capital and capital adequacy positions of the insurer under various scenarios, including:

- (a) its base scenario, based on its best estimates of risk factors; and
- (b) stress scenarios, constructed using relevant and material risks identified.

41. The insurer shall also apply reverse stress testing to identify scenarios that would be the likely cause of 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.
- “Business failure” is defined as:
- (a) the insurer’s solvency position falling below any regulatory capital requirement;
 - (b) the insurer’s capital position falling below any internal target; or
 - (c) the insurer being wound up.
42. As a result of continuity analysis, the insurer shall maintain contingency plans and procedures for use in a going⁸ and gone concern situation. Such plans should identify relevant actions the insurer could realistically take to restore or improve the insurer’s capital adequacy or cash flow position after some future stress scenario and assess whether actions should be taken by the insurer in advance as precautionary measures.
43. The insurer shall, as part of its continuity analysis, 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 insurer.

ORSA Reports

44. The insurer shall prepare the ORSA report, which includes, at a minimum, the sections as outlined in Appendix A.
45. An insurer which belongs to a group may make use of its group’s ORSA report, provided the required details specific to the insurer, is clearly documented in the report.
46. A Tier 1 insurer shall lodge, with the Authority, its latest ORSA report, with the first report being due by 30 April 2014, and annually thereafter.
47. A Tier 2 insurer shall lodge, with the Authority, its latest ORSA report, with the first report being due by 30 April 2015, and by 30 April of every third year thereafter.

Submission of Board of Directors’ Deliberations on ORSA Reports

48. The insurer shall submit to the Authority an extract of the minutes of the Board of Directors’ meeting detailing the deliberations made by the Board of Directors on the ORSA report and the Board of Directors’ approval of the ORSA report (the ‘Extract of the minutes’) at the time of lodgement of the ORSA report. If an insurer is unable to submit the extract of the minutes together with the ORSA report, the insurer shall undertake and confirm in writing to the Authority the date by which the Extract of

⁸ “Going concern” in this Notice means the financial condition deemed appropriate by the insurer such that normal business operations can be conducted. For example, the target financial and capital adequacy positions should not be set at the financial resources warning event level specified in regulation 4(6) of the Insurance (Valuation and Capital) Regulations 2004.

minutes will be submitted to the Authority. The insurer shall submit the Extract of the minutes no later than 1 month from the date of lodgement of the ORSA report with the Authority.

Part II – Non-Mandatory Standards

Compliance with non-mandatory standards

49. The standards set out in Part II of this Notice are not mandatory in that failure by an insurer to comply with any of the standards does not of itself render the insurer to be in breach of this Notice. However, the Authority expects insurers to observe the standards set out in Part II of this Notice.
50. A failure by any insurer to comply with the non-mandatory standards does not of itself render the insurer liable to criminal proceedings but the Authority may take into account a failure to comply with these standards in considering whether to issue directions to the insurer.

Risk Identification and Measurement

Causes of risk and the relationship between risks

51. In assessing the relationship between risk exposures, consideration should be given to correlations between risk events which could cause extreme losses to the insurer. Risks that show no strong dependence under normal economic conditions, such as catastrophe risks and market risks, could be more correlated in a stress scenario. For example, 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, in a high level of claims, collateral calls or policy terminations, and hence lead to serious liquidity issues. The insurer should adequately address its options for responding to such trigger events.

Measuring, analysing and modelling the level of risk

52. 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. An insurer should regularly assess the level of risk that it bears using appropriate forward-looking quantitative techniques such as risk modelling⁹, stress testing, including reverse stress testing, and scenario analysis. An insurer should adopt the appropriate range of adverse circumstances and events, 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 these actions. An insurer should use risk measurement techniques in developing long-term business and contingency plans, where it is appropriate to the nature, scale and complexity of the insurer to do so.

⁹ "Modelling" in this context does not necessarily mean complex stochastic modelling. It can also include less sophisticated methods.

53. Different approaches on assessment of the level of risk 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 data available. For example, stochastic risk modelling may be appropriate to measure some non-life catastrophe risks, whereas relative simple calculations may be appropriate in other circumstances.
54. An insurer should base the measurement of its risks on a consistent economic assessment of the total balance sheet as appropriate to ensure that appropriate risk management actions are taken. In applying the ERM framework, an insurer 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.
55. Where a risk is not readily quantifiable, for instance some operational risks or where there is an impact on the insurer's reputation, the insurer should make a qualitative assessment that is appropriate to that risk and sufficiently detailed to be useful for risk management. The 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 the insurer's judgments in assessing the size of the risks and enhancing overall risk management.
56. An insurer should produce, on a broadly consistent basis, overall assessment at different times, so that any variations in results can be readily explained. The insurer should use such analysis to prioritise its risk management.
57. Where models are used, an insurer should be mindful that, regardless of how sophisticated the models are, they cannot exactly replicate the real world. The use of models itself generates risk (modelling and parameter risks) which, if not explicitly quantified, should at least be acknowledged and understood by the insurer, including the Board and senior management.
58. An insurer may use stress testing and scenario analysis 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 going beyond the current parameters of the model is urgently required to investigate the effect of proposed management actions.
59. An insurer may use scenario analysis 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.

Risk Responsiveness and Feedback Loop

60. An insurer may include as new risks identified from within the business such as new acquisitions, investment positions, or business lines. An insurer may need to make changes to the ERM framework when there is new information 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.
61. The insurer should ensure that the feedback loop as described in paragraph 31 is effective, such that risk management decisions made by the Board and senior management are implemented and their effects monitored and reported in a timely and sufficiently frequent manner via good management information.

ORSA

62. The ORSA undertaken by the insurer should be appropriate to the nature, scale and complexity of its risks. Where it is appropriate to the nature, scale and complexity to do so, the effectiveness of the ORSA should be assured through internal or external independent review by a suitably experienced individual who reports directly to or is a member of the Board.
63. Regular undertaking of ORSA by the insurer should provide relevant and timely 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.
64. An insurer should consider scenarios in which its group splits or changes its structure in other ways. When an insurer assesses its current capital adequacy and continuity analysis, the insurer should also include in its ORSA relevant possible changes in the 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.

Economic and Regulatory Capital

65. 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 regulatory requirements into an insurer's ORSA and risk and capital management, so as to ensure that obligations to policy owners continue to be met as they fall due.
66. 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. An insurer cannot assume that capital will be readily available at the time it is needed. Therefore, an insurer should, when assessing its quality of capital, also consider the issue of re-capitalisation in its ORSA, 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.

67. The insurer may use internal models to better assess the financial resources and calculation of regulatory capital requirements due to the range of risks and their scale and complexity.
68. Due to the nature, scale and complexity of an insurer's business and risks, it may decide not to perform economic capital calculations in its ORSA. Where economic capital calculations are not performed, the insurer should document clearly the reasons for not doing so in its ORSA.

Continuity Analysis and Stress Testing

69. When conducting the continuity analysis, an insurer should take into consideration 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.
70. In performing its stress testing, the insurer should construct the base scenario in a manner that is consistent with the insurer's business plan. The base scenario should take into account the insurer's management and business philosophy and strategies such as marketing plans, sales objectives, investment policies, pricing philosophy, underwriting philosophy, reinsurance practices and its policy on allocation to participating policy owners and shareholders.
71. The insurer should also construct stress scenarios which clearly illustrate the extent to which one, or several, of its relevant and material risks, if realised, can affect its financial and capital position.
72. The following guidelines should be observed for the construction of projections under the insurer's continuity analysis and stress test scenarios:
 - (a) The projections should be comprehensive in scope and cover all key products and lines of business and all assets of the insurer that are material to the solvency of the insurer;
 - (b) Separate projections should be made for each insurance fund established and maintained by the insurer under the Act; and
 - (c) Where the assets or liabilities of an insurance fund that are material to the solvency of the insurance fund have different inherent characteristics, the appointed actuary or certifying actuary, as the case may be, should make separate projections by major product lines and asset classes within the insurance fund.

73. Adequate checks should also be conducted on the appropriateness of any data or projections that form the bases for the ORSA report. If the insurer relies on any other person for any aspect of the data or projections, the insurer should be satisfied that the person relied on is qualified for such purposes. The nature and extent of the reliance on such person and his particulars should be disclosed in the ORSA report.
74. In constructing the stress test scenarios, the insurer should analyse its key risk exposure in the face of catastrophic events such as natural calamities, a severe economic recession or a major crash in the equity, property or bond market. The insurer should also take into consideration the prevailing environment, including the economic, medical, demographic, social and political situation at the relevant time.
75. As part of its continuity analysis, the insurer should analyse its ability to withstand continuous adverse developments over the period of projection. Such adverse developments should include persistent inflation, recession, falling stock markets and claims experience. In deriving the assumptions relating to the scenarios, the insurer should consider the differing nature of various assumptions as compared to others:
- (a) Some assumptions, such as mortality or renewal expenses in real terms, may reasonably be relied on as fairly stable or having a stable trend. However, attention should be paid to both the risk of sudden change (e.g. a new infectious disease) and the possibility of a change in the trend.
 - (b) Other assumptions, for example policy persistency, may need to be considered in the context of both historical experience and changes anticipated in the light of different operating methods now used by the insurer.
 - (c) Yet other assumptions may be highly uncertain and totally outside the control of the insurer. This is particularly true of investment conditions, the volatility of which may have significant implications for the financial condition of the insurer.

The insurer should also take into consideration the prevailing environment, including the economic, medical, demographic, social and political trends at the relevant time.

76. The insurer should specify the reasons for the choice and construction of the scenarios presented in the ORSA report. The insurer, as the case may be, should also include a brief description of the scenario in the ORSA report, such as “financial crisis with adverse claims experience” and “decrease in new business and large terminations due to drop in confidence in the insurer”.
77. In conducting reverse stress testing, the insurer should determine the combination of risk factors that would most likely lead to business failure.
78. An insurer may use reverse stress testing, which identifies scenarios that are most likely to cause the insurer to fail, 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 any financial impacts arising from the risk of business failure may help in deciding the appropriate action to take.

79. During the analysis and construction of each scenario, the insurer should take into account interdependencies between the various key assumptions made.
80. An insurer should show in its ORSA report the impact on the insurer's financial condition if no management action is taken. In the ORSA report, the insurer should also demonstrate how, with appropriate and timely management action, it can maintain or regain a satisfactory financial condition under each scenario on a going concern basis. The target financial and capital adequacy positions should be consistent with its risk tolerance limits.
81. The insurer may propose in the ORSA several alternative courses of management action it could take to mitigate its financial loss in any given scenario. Rationale for each course of action, and the potential implications should be clearly described in the ORSA report. The ORSA report should illustrate the financial impact of each management action taken.
82. The insurer should ensure that the capital and cash flow projections (before and after stress scenarios) and the management actions included in their forecasts, are approved by senior management.
83. The insurer should also identify the key areas of concern noted from the stress test results and recommend risk management measures and the timeframe for implementing these measures. An assessment should be done on the adequacy of the mitigating measures, and where applicable, conduct further analysis to quantify the likely impact of such measures and set out the results of the analysis in the ORSA report.
84. These measures may include, but are not limited to, changing the asset mix, hedging investment risks wherever appropriate, changing the mix of new business, withdrawing from certain lines of business or revising reinsurance arrangements.

Effective Date

85. This Notice shall take effect on 1 January 2014.

Appendix A

Illustrative ORSA report template for an insurer

Section		Summary Description
A	Executive Summary	<ul style="list-style-type: none"> • Purpose of the report • Planning horizon captured in the report • Summary of the results of ORSA • Includes the key risks that threaten the financial strength of the insurer and the key mitigating actions identified
B	ORSA Process	<ul style="list-style-type: none"> • Summary of the ORSA process • Includes summary of the key risk management policies and comments on the effectiveness of these policies in managing its risk profile • Includes summary of key changes to its ORSA process and underlying assumptions • Includes details of principal assumptions and interdependencies between the various key assumptions
C	Strategy and Risk appetite	<ul style="list-style-type: none"> • Summary of current business strategy and risk appetite • Impact of the business strategy on the risk profile • Demonstrates link between strategy, risk and capital
D	Risk Exposures	<ul style="list-style-type: none"> • Risk appetite statements and assessment of the current risk profile against defined appetite • Assessment of risks which may not be quantified within the economic capital and regulatory capital review such as group, reputational and emerging risks • Assessment of the effectiveness of controls in place to mitigate against key risks • Summary of breaches on defined risk appetite since last reporting and any impact to risk strategy and capital
E	Business Projection and Stress Testing	<ul style="list-style-type: none"> • Brief description of stress scenario • Includes the rationale for the choice and construction of the scenarios and the description of the assumptions • Potential risk, capital and solvency profile under various stressed conditions • Qualifications of results (if any)
F	Capital Requirement	<ul style="list-style-type: none"> • Summary of methodology to determine required capital (regulatory and economic) • Assessment of regulatory and economic capital needs based on the actual and potential risks faced • Analysis of key drivers of the change in the financial, economic and capital adequacy positions
G	Solvency Assessment	<ul style="list-style-type: none"> • Assessment of available funds to meet capital requirements, both now and based on future projections • Summary of capital management plans • Assessment of capital planning and adequacy • Includes the capital contingency plans where future funds may be insufficient to meet capital needs, and the timeframe for implementing these measures

Section		Summary Description
		<ul style="list-style-type: none"> • Include assessment of contingent capital or access to additional funds (e.g. from parent company or Head office) post-event • Assessment of the effectiveness of capitals which are fungible or likely to be fungible
H	Assurances	<ul style="list-style-type: none"> • Comparison of actual experience (including the Capital Adequacy Requirement) vis-à-vis projection from the prior year • Comment on the suitability of current projection assumptions in light of past actual experience • Comment on the management actions taken in the previous period in response to the recommendations stated in the previous ORSA Report • Summary outcome of independent review of ORSA (if any) • Limitations and reliance
I	Appendices and References	<ul style="list-style-type: none"> • Includes detailed projection of the stress testing



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