



**BERMUDA MONETARY AUTHORITY**

**CONSULTATION PAPER**

**ON**

**COMMERCIAL INSURER'S SOLVENCY SELF ASSESSMENT**

**JUNE 2010**

## **TABLE OF CONTENTS**

|                                                                                                       |           |
|-------------------------------------------------------------------------------------------------------|-----------|
| <b>0. INTRODUCTION</b>                                                                                | <b>2</b>  |
| <b>1. EXECUTIVE SUMMARY</b>                                                                           | <b>3</b>  |
| <b>2. BACKGROUND</b>                                                                                  | <b>6</b>  |
| <b>3. INTERNATIONAL DEVELOPMENTS</b>                                                                  | <b>8</b>  |
| <b>4. DEFINITION AND PURPOSE OF CISSA</b>                                                             | <b>9</b>  |
| <b>5. KEY PRINCIPLES AND GUIDANCE OF CISSA</b>                                                        | <b>11</b> |
| 5.1. ROLE OF THE BOARD AND SENIOR MANAGEMENT IN RELATION TO THE CISSA                                 | 12        |
| 5.2. CISSA SHOULD ENCOMPASS ALL MATERIAL RISKS                                                        | 13        |
| 5.3. CISSA SHOULD INCLUDE THE DETERMINATION OF FINANCIAL RESOURCES REQUIRED TO MANAGE<br>THE BUSINESS | 14        |
| 5.4. CISSA SHOULD BE FORWARD-LOOKING                                                                  | 15        |
| 5.5. USE TEST                                                                                         | 16        |
| 5.6. CISSA PROCESS AND ASSESSMENT SHOULD BE APPROPRIATELY DOCUMENTED                                  | 16        |
| <b>6. CISSA AND SRP</b>                                                                               | <b>17</b> |
| <b>7. APPLICATION OF CISSA TO GROUPS</b>                                                              | <b>18</b> |
| <b>8. FREQUENCY OF CISSA</b>                                                                          | <b>19</b> |
| <b>9. REPORTING AND FILING REQUIREMENTS</b>                                                           | <b>19</b> |
| <b>10. IMPLEMENTATION PERIOD</b>                                                                      | <b>21</b> |
| <b>APPENDIX A: CISSA RETURN (CLASS 4 AND 3B INSURERS)</b>                                             | <b>22</b> |
| <b>APPENDIX B: CISSA RETURN (CLASS 3A INSURERS)</b>                                                   | <b>41</b> |

## 0. INTRODUCTION

1. This Consultation Paper outlines the Bermuda Monetary Authority's ("the Authority") proposed approach to the implementation of an insurer's own risk and solvency assessment regime referred to as the Commercial Insurer's Solvency Self Assessment ("CISSA"). The views of the insurance industry and other interested persons on the proposals set out in this paper are invited. Comments should be sent to the Authority addressed to [policy@bma.bm](mailto:policy@bma.bm) no later than 31<sup>st</sup> August 2010.

2. For the purposes of this paper:

"insurers" includes "reinsurers" and "insurance" also refers to "reinsurance";

"material" is where the impact, if a given risk crystallises, could change the view of (or would be considered important by) board of directors ("Board")/senior management, policyholders, investors or other stakeholders, or the Authority in relation to the insurer's or insurance groups' solvency and/or liquidity position (or risk profile generally);

"the Insurance Act" refers to the Insurance Act 1978;

"the Insurance Code" or "Code" refers to the Insurance Code of Conduct (February 2010);

"CISSA" is the Authority's equivalent to an insurer's own risk and solvency assessment;

"ORSA" and has been referred to as such in previous papers;

## 1. EXECUTIVE SUMMARY

3. The Authority is proposing to enhance its regulatory framework, by introducing a regime that requires commercial insurers to perform an assessment of their own risk and solvency requirements, referred to as the Commercial Insurer's Solvency Self Assessment ("CISSA" or "self assessment"), for the benefit of policyholders and to further encourage well-run insurer operations in the Bermuda market.

4. The proposals outlined in this paper will apply to Class 4, Class 3B, and Class 3A insurers in accordance with the proportionality principle. Additionally, the Authority is currently enhancing its Long-term insurer's regime, and will publish a consultation paper in the fall of 2010. It is expected that that paper will outline a classification for Long-term insurers, similar to that of general business. The principles in this paper will also apply to the commercial Long-term insurers in a proportionate manner. The "Capital and Solvency framework for Long Term Insurance" consultation paper will be due out in Q3 2010, which will provide additional information on the broader solvency framework as applied to the Long-Term Insurers.

5. The Authority is also proposing to implement CISSA for insurance groups. It is envisioned that the proposals in this paper will also apply to insurance groups.

6. The Authority has adapted the European Union's definition of its ORSA process, and defines the CISSA "as the entirety of the processes and procedures performed by an insurer to identify, assess, monitor, manage and report on the short and long term risks it faces and to determine the capital resources it requires to remain solvent at all times"<sup>1</sup> and achieve its business goals.

7. The proposed CISSA regime will provide the Authority with the insurer's perspective of the capital resources necessary, to achieve its business strategies and remain solvent given its risk profile, as well as gain insights on the risk management and governance procedures surrounding this process. It will provide an opportunity for insurers to demonstrate to the

---

<sup>1</sup> CEIOPs – "Issue paper on Own Risk and Solvency Assessment", May 2008, Page 5.

Authority that capital levels, quality of capital and risk management procedures and policies are commensurate with their risk profile. It includes a forward looking perspective, which augments an insurer's ability to deal with the impact of future external changes in its risk and solvency position. An insurer's approach to the CISSA, should be consistent with the governance, and risk management requirements in the Insurance Code.

8. The primary objective of insurance supervision is to protect the interests of both current and prospective policyholders.<sup>2</sup> This is achieved by ensuring that insurers are solvent and have sufficient liquidity to meet policyholders' obligations. It also includes ensuring that insurers have good risk management practices, and procedures to adequately manage the risks that could threaten their solvency and liquidity. CISSA is a tool of risk management and therefore plays a significant role in the protection of policyholders' interests.

9. The Authority is developing procedures, where possible, to automate the review of electronically received CISSA information. It is envisioned that this approach will enhance the review and analysis of the CISSA and optimise supervisory resources.

10. The Authority will also use CISSA as a tool in the supervisory review process ("SRP"), to assist in monitoring compliance with the Insurance Code, given that the CISSA should, as a minimum, consider those risks outlined in the Code. Though CISSA is a new concept to the Bermuda market, it is apparent that many insurers already have in place systems that, to a great extent, will meet the requirements of a CISSA.

11. This paper provides guidance on the principles to be followed by insurers when performing their self assessments. It discusses the philosophy underlying the CISSA, with the objective of providing guidance on the CISSA filing process. The Authority intends to implement the CISSA regime in a way that it can proactively carry out its duties and minimise compliance costs.

---

<sup>2</sup> <http://www.bma.bm/about-us/standards-regulations.html>

12. This paper has 9 main sections as follows:

- Section 2 describes the context and reasons for the proposal;
- Section 3 highlights international developments in solvency self assessments;
- Section 4 explains the purpose and the potential benefits of the regime;
- Section 5 outlines the principles and guidance procedures to be followed by insurers when conducting self assessments;
- Section 6 discusses the integration of the CISSA into the supervisory review framework;
- Section 7 describes the application of the CISSA to insurance groups;
- Section 8 addresses the frequency of the CISSA;
- Section 9 outlines the reporting and filing requirements, which includes an overview of the objective and contents of the annual CISSA Return; and
- Section 10 addresses the implementation timeline.

## 2. BACKGROUND

13. The Authority is continuing its programme of enhancing its regulatory regime. The objective is to develop a framework that is appropriate for the Bermuda market and recognised as meeting or exceeding international standards.

14. The Authority is proposing to enhance its regulatory framework, by introducing a regime that requires insurers to perform an assessment of their own risk and solvency requirements referred to as the CISSA. This is consistent with, and will augment, the self-assessment that will be required by the Insurance Code which will be effective July 1<sup>st</sup> 2010, with a transitional period extending to December 31<sup>st</sup> 2010. CISSA, at a conceptual level, is aligned with the IAIS<sup>3</sup> and Solvency II's<sup>4</sup> ORSA frameworks.

15. The proposals in this paper will apply to the Class 4, Class 3B, and Class 3A insurers for the 2011 reporting year-end in accordance with the proportionality principle. However, legislation will be proposed for July 2010 with a trial run for these Classes at year-end 2010.

16. The Authority is currently developing its Long-term regime, and plans to issue a consultation paper in Q3 2010. It is expected that that paper will outline a proposal to classify Long-term insurers, similar to the general business classes. The principles in this paper would be applied to the commercial Long-term insurers. In the meantime, all insurers must follow the process outlined in the Insurance Code.

17. The Authority is currently developing its group-wide supervisory regime; a consultation paper was issued in February 2010. The Authority anticipates that the CISSA regime discussed in this paper would be applicable to both solo entities and insurance groups.

---

<sup>3</sup> IAIS – “The IAIS Guidance paper on Enterprise Risk Management for Capital Adequacy and Solvency Purposes”, October 2008, Pg 13.

<sup>4</sup> CEIOPS – “Issue paper on Own Risk and Solvency Assessment”, May 2008.

18. The Authority's supervisory regime has both qualitative and quantitative components<sup>5</sup>. Insurers are required to maintain appropriate provisions for liabilities and hold adequate assets to support those obligations, hold capital at a level that exceeds specified regulatory thresholds, and have in place governance and risk management techniques and procedures to monitor and manage risks. In addition, insurers are subject to certain disclosure requirements<sup>6</sup>.

19. Effective the 2008 reporting year-end, the Authority introduced the Bermuda Solvency Capital Requirement ("BSCR") to determine, on an annual basis, the regulatory capital requirement<sup>7</sup> for Class 4 insurers. The BSCR has been extended to Class 3B insurers on a trial run basis for the 2009 reporting year end. In tandem, the Insurance Act has been amended to allow insurers the alternative of using an internal capital model approved by the Authority to determine regulatory capital. The rationale for allowing the use of an internal model is to have a regulatory capital requirement that better reflects an insurer's particular business profile.

20. In addition to the annual filing, the Authority also evaluates on an on going basis the adequacy of insurers' financial resources and internal controls, as well as its governance framework. The Insurance Code sets out principles and standards relating to corporate governance, risk assessment, risk management, and solvency self assessment, and other matters. The Code requires an insurer to develop policies and procedures to assess its material risks, and determine its own capital requirement for its business.

21. The BSCR is a standardised calculation method calibrated using aggregated industry data. Therefore, BSCR is not tailored to any specific insurer's risk profile. As a result, the BSCR, in certain cases, may not reflect the risk profile of a specific insurer and may not calculate the solvency requirements appropriately. Even when an insurer is using an internal capital model, there are certain risks which may not be adequately addressed. CISSA, although not necessarily a regulatory capital requirement, is a critical supervisory tool that

---

<sup>5</sup> This can be referred to as a "three pillar" structure, where Pillar I covers minimum financial requirements, Pillar II the supervisory review process and risk assessment framework, and Pillar III disclosure requirements.

<sup>6</sup> This covers disclosure both to the regulator and the public domain.

provides an opportunity for an insurer to report on its view of its specific risk profile, and the overall capital resources (both capital requirement and quality of capital) needed to achieve its business objectives.

22. The CISSA process provides an opportunity to align management, and regulatory reporting. The Authority intends to make CISSA central to the Authority's SRP. The increased dialogue between insurers and the Authority will assist when assessing the link between the regulatory capital measure, and an insurer's own comprehensive assessment of its risks.

23. The Bermuda market has been innovative in the development of sophisticated modelling techniques, which make capital allocation and risk aggregation analysis central to the assumption of risk. It is expected that many insurers in Bermuda already have in place systems and processes that, and to a great extent, will meet the requirements of a CISSA.

### **3. INTERNATIONAL DEVELOPMENTS**

24. The Authority's mission and vision embraces protecting and enhancing "Bermuda's reputation, and position as a leading international financial centre"<sup>8</sup>. Towards this end, the Authority views protecting existing and prospective policyholders, through effective regulation, as a key objective contributing to its overall mission and vision. The Authority is thereby committed to meeting international regulatory standards, which share the same aim, while ensuring that the regulatory regime is appropriate for the Bermuda market.

25. While the ORSA or CISSA-type process is becoming a requirement of regulatory regimes worldwide, the concept is in its nascence. Currently, the level of detail surrounding the process is limited to high-level guidance disseminated by the International Association of Insurance Supervisors ("IAIS"), the European Union ("EU") and some other regimes. The

---

<sup>7</sup> Required regulatory capital is referred to as the Enhanced Capital Requirement, or ECR.

<sup>8</sup> <http://www.bma.bm/about-us/mission-vision.html>.

IAIS, in its guidance paper<sup>9</sup> issued in October 2008, requires an insurer to regularly perform a self assessment of its risks and solvency requirements and to demonstrate clearly the link between capital adequacy, risk governance processes and strategic decision making. The EU requires insurers to perform the process regularly under the Solvency II Directive.

26. Regulators generally, including the Authority, endorse the principle that an appropriate risk and solvency self assessment process will facilitate well-run insurer operations, thus benefiting policyholders. Accordingly, the Authority is committed to this concept.

#### **4. DEFINITION AND PURPOSE OF CISSA**

27. CISSA is a risk management tool that requires an insurer to assess its own short- and long- term risks and determine both the amount of capital and quality of capital; required to cover these risks, while both remaining solvent and achieving its business goals. CISSA is defined as “the entirety of the processes and procedures employed by an insurer to identify, assess, monitor, manage, and report on the short- and long-term risks an insurer faces or may face, and to determine the amount of capital necessary to ensure that the insurer’s overall solvency needs are met at all times”,<sup>10</sup> and achieves its business goals.

28. A well-run insurer actively monitors material risks to which it is exposed, implements a company-specific relationship between risk and required capital and has appropriate and effective governance structures and controls. The CISSA provides an opportunity for insurers to demonstrate that both the capital levels, and quality of capital are commensurate with their risk profile.

---

<sup>9</sup> IAIS-“Guidance Paper on Enterprise Risk Management for Capital Adequacy and Solvency Purposes” October 2008, Page 13.

<sup>10</sup> CEIOPS – “Issue paper on Own Risk and Solvency Assessment”, May 2008, Pg 5.

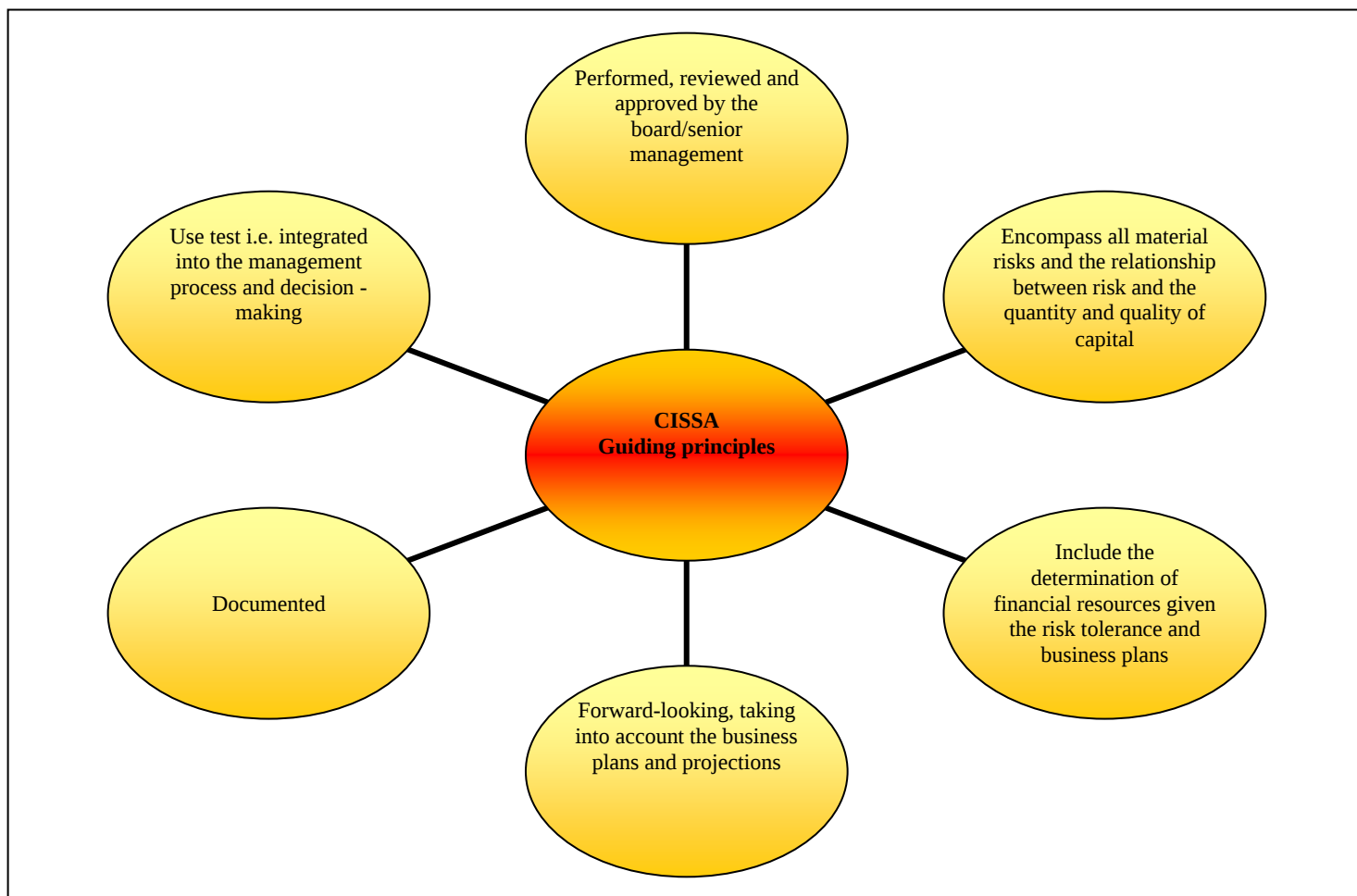
29. The Authority believes the proposed CISSA regime will result in significant long-term benefits to both the insurer and the Authority. The potential benefits include:

- Encouraging or promoting a strong culture of risk-management by insurers, through the alignment of an insurer's solvency needs with its risk profile;
- Providing the ability to identify, in a timely manner, risks that could impact their solvency needs;
- Assisting, through integration of risk and capital management into the decision-making process, to ensure that the internal capital and regulatory needs continue to be met; and
- Equipping insurers to better deal with future changes in risk situations, and assess how these changes may affect their capital positions and ways of raising additional capital, where necessary, since the process is forward-looking.

30. The CISSA is therefore a complementary tool used in the SRP to assist the Authority in assessing an insurer's governance and risk management surrounding solvency. Although the CISSA may cover risks that are not addressed in the BSCR, the Authority believes that capital add-ons should be exceptional. The supervisory review will focus on the extent that insurers consider and respond to material risks.

## 5. KEY PRINCIPLES AND GUIDANCE OF CISSA

31. The Authority will expect insurers to have processes that are proportionate to the nature, scale and complexity of the risks inherent to their business. This will enable them to properly identify and assess the risks faced in the short- and long-term, and to which they are or could be exposed. The Authority proposes to require that insurers be able to explain and justify their CISSA assessment in its entirety (e.g. the methodology used, key assumptions, results of the assessment, sources of data used etc.) and demonstrate, when required, that it has appropriately considered and accounted for all material risks that should be reasonably known. Accordingly, an insurer should consider the following principles when conducting its CISSA, in accordance with its level of sophistication:



### **5.1. Role of the Board and Senior Management in relation to the CISSA**

32. The Authority expects the Board and senior management to ensure, at least on an annual basis, that policies, processes, and procedures are developed to assess the insurer's material risks, and self-determine the capital resources it would need to support its operations in accordance with the principle of proportionality. Minimally, the Board and senior management are required to certify that the CISSA:

- "... is an integral part of the insurer's risk management framework;
- ... is clearly documented, reviewed, and evaluated regularly by the board and the chief and senior executives to ensure continual advancement in light of changes in the strategic direction, risk management framework, and market developments;
- ...includes an appropriate oversight process, which involves an independent review<sup>11</sup>, whereby material deficiencies are reported on a timely basis and suitable actions taken; and
- is administered by key persons who are fit and proper<sup>12</sup>.

33. The senior management should approve and regularly review the assumptions used in the CISSA, including any management actions. The CISSA should then be ultimately reviewed and endorsed by the insurer's Board. The Board or senior management should be able to review and challenge the results of the CISSA.

---

<sup>11</sup> The independent review may be conducted by an internal or external auditor or any other skilled internal or external function, as long as they have not been responsible for the part of the CISSA process they review, and are therefore deemed to be independent in their assessment.

<sup>12</sup> Insurance Code of Conduct (February 2010)

## **5.2. CISSA should encompass all material risks**

34. Insurers should approach the CISSA in accordance with the requirements of the Insurance Code. The CISSA should include all relevant material risks (including at a minimum, underwriting, credit, market, operational, liquidity, group, reputational and strategic risks, i.e. those risks outlined in the Insurance Code) that may have an impact on an insurer's ability to meet policyholders' obligations. There should be consideration for the relationship between risk management, and the quality and quantity of capital, the impact of risk mitigation techniques, including reinsurance and any diversification effects between the risks.

35. The Authority is aware that certain risks such as liquidity, reputational, group, strategic risk are difficult to quantify and thus hold capital in respect of these (although some might). While the Authority is not imposing a requirement to quantify these risks, it expects that insurers will effectively consider these risks in their assessments, and have an appropriate means of addressing them.

36. The CISSA should include a description of how the insurer's risk appetite is defined and measured, as well as details around limits imposed and how these limits are enforced throughout the business. Insurers should consistently monitor adherence to their risk appetites, and review them regularly. Insurers should also give consideration to the link between their risk appetites, the strategic direction of the firm and the management of solvency.

### **5.3. CISSA should include the determination of financial resources required to manage the business**

37. The CISSA should include an insurer's determination of its own capital needs (projected target economic capital<sup>13</sup>), taking into account its risk tolerance and business plans.

38. When determining the projected target economic capital requirements, insurers should generally apply a methodology that is suitable to the nature and scale of their operations. Where an insurer uses an internal model to determine its projected target economic capital, the internal model will not require the Authority's approval for that purpose. The Authority expects that the Board or relevant committee review the output of the internal model, and ensure that it is validated for appropriateness in assessing the risk and capital management processes.

39. The Authority does acknowledge that an insurer may have used a confidence level, and time horizon that differs from that of the BSCR or an approved internal capital model to determine its projected target economic capital. However, the Authority proposes to require that the CISSA should also include a Class 4 and Class 3B insurer's own calculation of capital at 99.0% TVaR<sup>14</sup> over a one year horizon (same confidence level and time horizon as the regulatory capital), except where an insurer uses an approved internal model for regulatory reporting. This will allow the Authority to assess the deviations of the insurer's risk profile from the assumptions of the BSCR model and evaluate the robustness of the BSCR. Additionally, it is good practice that an insurer should be aware of, and be able to analyse and explain, these differences. The Authority does not propose to extend this requirement to Class 3A insurers, appreciating that they may not have sophisticated modeling capabilities.

---

<sup>13</sup> Projected target economic capital relates to an insurer's own assessment of the capital resources required to achieve its business objectives given its specific risk profile.

<sup>14</sup> Projected economic capital at 99.0% TVaR relates to an insurer's own calculation of capital at 99.0% confidence level over a one year time horizon.

40. The Authority proposes to require Class 4 and Class 3B insurers to determine capital at a higher percentile to evaluate the sensitivity and robustness of an insurer's CISSA process.

#### **5.4. CISSA should be forward-looking**

41. The CISSA should be forward-looking, taking into account the insurer's business plans and capital projections. It should demonstrate that insurers have appropriate risk management and hold sufficient financial resources to continue to manage current in-force business and support new business plans, over a longer time horizon (for example two to five years<sup>15</sup>). The capital management plans and capital projections should be reviewed by the senior management and the Board.

42. In carrying out the forward looking analysis, an insurer should demonstrate its ability to manage its business and capital in adverse circumstances and still meet the regulatory capital requirements. Therefore, the CISSA should include comprehensive stress and scenarios testing performed to monitor the insurer's capital adequacy in adverse scenarios and actions taken to mitigate the potential impact of the adverse scenarios. In addition, an insurer should have contingency plans and procedures to restore the insurer's capital adequacy or liquidity position after an adverse event.

43. Stress and scenario testing can also be used to validate, supplement and benchmark capital model output. An insurer's Board should assess the capital impact implied by stress and scenario tests and reconcile it to the insurer's risk appetite.

---

<sup>15</sup> The IAIS gives an example of three to five years in its paper– “The IAIS Guidance paper on Enterprise Risk Management for Capital Adequacy and Solvency Purposes”, October 2008, page 16

## **5.5. Use test**

44. The CISSA should be integrated into the decision-making process and serve a critical role in the development, implementation and monitoring of management strategies. This is referred to as the “use test”. Consequently, an insurer should be able to describe to the Authority how it has used its CISSA in the strategic decisions making process.

45. The Board needs to be able to demonstrate to the Authority, that it has appropriate processes in place for monitoring the company’s risk profile and risk aggregation, and the quantity and quality of capital. The Board should also be prepared to demonstrate that the control framework and strategic planning processes surrounding the CISSA are appropriately integrated into the insurer’s operations.

## **5.6. CISSA process and assessment should be appropriately documented.**

46. The CISSA should be appropriately documented such that it can be easily reviewed by the Authority as part of the SRP. The Authority proposes to require insurers to retain the documents supporting the CISSA submissions, for a period of not less than five years, or until the Authority’s review of the support documentation.

47. Depending on the level of sophistication, at a minimum, an insurer’s CISSA should:

- reflect all assets and liabilities, including intra-group arrangements;
- take into consideration off-balance sheet items;
- reflect the management practices, systems and controls; and
- use a valuation basis that appropriately reflects the risk characteristics, and business model of the insurer.

## **6. CISSA AND SRP**

48. The SRP is the risk-based approach to the Authority's review and evaluation of the strategies and processes that are established by insurers to comply with legislation and other regulatory requirements. The SRP includes the assessment of the qualitative requirements relating to the system of governance and controls. It is an assessment of the risks, which the insurer faces or may face in the future. It assesses the insurers ability to identify, and evaluate material risks, taking into account the environment in which they operate.

49. As noted in paragraph 22, the Authority intends to integrate the CISSA into its SRP with a long-term view of converging, as far as practicable, reporting requirements through the CISSA. The Authority envisages the CISSA to be a critical SRP tool that will provide insights on the soundness of an insurer's policies and assessment of its risk profile. The intent is to reduce reporting that is prepared solely for the regulator, while ensuring that all material risks, both at the solo entity level and group level for insurers which have subsidiaries or form part of a group, are appropriately captured and monitored. Reporting and procedural efficiencies will be gained for both the Authority and insurers.

50. The output of the CISSA will be used to inform the SRP of rationale underpinning the level of risk management, and solvency levels maintained by insurers. It will also serve as a tool, to assist the Authority in monitoring compliance with the Insurance Code. The Authority may request clarification and/or additional information upon reviewing CISSA submissions. Hence, insurers should retain the documents supporting their CISSA return submissions as specified in paragraph 46.

## **7. APPLICATION OF CISSA TO GROUPS**

51. As noted in paragraph 17, the CISSA and all of the proposals in this paper are to be applicable to insurance groups, where the Authority is the appointed Group-wide Supervisor.

52. The Authority proposes, where it has been appointed Group-wide Supervisor, to require insurance groups to submit a group CISSA reflecting the aggregate risks and required capital resources of their material subsidiaries<sup>16</sup> (whether or not licensed in Bermuda). To the extent that the Authority can extract data for the legal entity from the Group CISSA, the legal entity CISSA can be abbreviated. The group CISSA should also consider instances where capital is not fungible and assets are not transferable.

53. Class 4, Class 3B, Class 3A and commercial Long-term insurers that are members of insurance groups, where the Authority has been appointed as the Group-wide Supervisor, will still be required to submit their respective solo CISSAs. However, the Authority would reserve the right to waive this requirement either completely or partially where it deems that the submission of the solo (or legal entity) CISSA adds little informational (prudential) value to that received from the respective insurance group CISSA.

54. Where the Authority is not the Group-wide Supervisor and the CISSA is prepared at the group level, the Authority will work with insurers to determine an appropriate approach for allocating capital to a legal entity, where modelling and capital assessment is not carried out at the legal entity level.

---

<sup>16</sup> In this sense, material would not only include subsidiaries that are significant in size, but also smaller subsidiaries that may present material risk exposure.

## **8. FREQUENCY OF CISSA**

55. While insurers should establish their own frequency of the CISSA taking into account their own risk profile, the assessment must be performed, at a minimum on an annual basis, and must also be formally reviewed and endorsed by the Board at least annually. Insurers should be able to justify the adequacy of the frequency of their assessment.

56. Insurers shall carry out a CISSA following any significant change in risk and solvency profile.

## **9. REPORTING AND FILING REQUIREMENTS**

57. While it is up to an insurer to design its own CISSA/self assessment process, it should ensure that the process meets the CISSA principles and guidelines outlined in this paper. The Authority does recognise that each insurer's self assessment reports will vary considerably, both in length and quality. Therefore, these reports would be inefficient for the Authority to analyse and compare across insurers in a timely manner. To partly address this, the Authority has developed CISSA Returns for Class 4, Class 3B and Class 3A insurers (see Appendices A and B). The CISSA Return for commercial Long-term insurers will be published with the upcoming Long-term paper.

58. The CISSA Return is designed to optimise supervisory resources, while providing more guidance and clarity to the insurer, and improving on the quality of the CISSA submissions. While the CISSA Return is not the self assessment itself, its main purpose is to provide the Authority with a high level summary of an insurer's actual self assessment process. The Authority, upon review of the CISSA Return, may seek clarification and/or support documentation to obtain a more thorough understanding of the CISSA where it deems necessary.

59. The proposed CISSA Return contains both qualitative and quantitative questions. It will allow insurers to provide a brief description or attach documents explaining their unique business operations. A degree of standardisation has been incorporated for the Authority to take advantage of XBRL reporting platform<sup>17</sup> (currently under development), while at the same time allowing sufficient flexibility for an insurer to summarise its own unique assessment. The Authority intends to utilise XBRL to consolidate the data, where possible, into homogeneous sets which will then be analysed to identify market trends and benchmarks. This includes a proposal to incorporate prior-year defaults (within the XBRL) to make the filing process more efficient where information has not changed.

60. While the frequency of the CISSA is dependent upon the individual insurer (as noted in Paragraph 55), the Authority requires the CISSA Return to be filed annually, unless otherwise directed by the Authority.

61. The Authority's long-term aim is to consolidate and streamline reporting procedures and reduce compliance costs. Accordingly, the CISSA Return will be consolidated into the Capital and Solvency Return (prescribed by the Insurance (Prudential Standards) (Class 4 Solvency Requirement) Order 2009). The consolidated filing will eliminate chances of duplicate submission of information and simplify the annual regulatory reporting process by allowing insurers to complete a single file template to satisfy their reporting requirements.

---

<sup>17</sup> eXtensible Business Reporting Language ("XBRL") is a reporting platform XBRL is a language for the electronic communication of business and financial data that enables the separation of form and content.

## 10. IMPLEMENTATION PERIOD

|                                                                      | 2010 |    |    | 2011 |
|----------------------------------------------------------------------|------|----|----|------|
|                                                                      | Q2   | Q3 | Q4 | Q4   |
| <b>Publication of Consultation Paper</b>                             |      |    |    |      |
| <b>Legislative process</b>                                           |      |    |    |      |
| <b>CISSA return trial run for Class 4, 3B and 3A insurers</b>        |      |    | *  |      |
| <b>CISSA return effective filing for Class 4, 3B and 3A insurers</b> |      |    |    |      |

*\*the reporting period of the respective year*

62. The Authority proposes to implement the CISSA framework for Class 4, Class 3B, and Class 3A insurers effective 2011 reporting year-end. Actual legislation is planned for 2010 with a trial run for the 2010 year-end for these Classes.

## APPENDIX A: CISSA RETURN (CLASS 4 AND 3B 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<br>Economic Capital | Projected Economic<br>Capital at 99.0%<br>TVaR | Projected Economic<br>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)                                             |                                      |                                                |                                              |
| Total capital pre-diversification between risk categories   | -                                    | -                                              | -                                            |
| Diversification credit between risk categories              |                                      |                                                |                                              |
| Total capital after diversification between risk categories | -                                    | -                                              | -                                            |

### 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"/><br><input type="text"/><br><input type="text"/><br><input type="text"/><br><input type="text"/><br><input type="text"/><br><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)?                                                                                                                                                                                     |                                                                                                                                                                      |
|   | If yes, are the limitations assessed for reasonableness and effectiveness in reducing the threat to solvency?                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                      |
|   | 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 )

- |                          |                     |
|--------------------------|---------------------|
| <input type="checkbox"/> | US earthquake       |
| <input type="checkbox"/> | European windstorm  |
| <input type="checkbox"/> | Japanese earthquake |
| <input type="checkbox"/> | Japanese typhoon    |
| <input type="checkbox"/> | 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 |                     |                         |                      |

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

|                                                                 |  |  |  |
|-----------------------------------------------------------------|--|--|--|
| 9 Projected Economic Capital at 99.0% TVaR for Catastrophe risk |  |  |  |
|-----------------------------------------------------------------|--|--|--|

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

|                                                                   |  |  |  |
|-------------------------------------------------------------------|--|--|--|
| 10 Projected Economic Capital at 99.95% TVaR for Catastrophe risk |  |  |  |
|-------------------------------------------------------------------|--|--|--|

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 )

- |                          |                                                           |
|--------------------------|-----------------------------------------------------------|
| <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 | <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"/> |
|-------------------------------------------------------------|----------------------|----------------------|----------------------|

### 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%).

|  |
|--|
|  |
|--|

## 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 |                     |                         |                      |

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

- |                                                             |  |  |  |
|-------------------------------------------------------------|--|--|--|
| 9 Projected Economic Capital at 99.0% TVaR for Premium risk |  |  |  |
|-------------------------------------------------------------|--|--|--|

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

- |                                                               |  |  |  |
|---------------------------------------------------------------|--|--|--|
| 10 Projected Economic Capital at 99.95% TVaR for Premium risk |  |  |  |
|---------------------------------------------------------------|--|--|--|

- 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%).

|  |
|--|
|  |
|--|

## 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 |                     |                         |                      |

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

|                                                            |  |  |  |
|------------------------------------------------------------|--|--|--|
| 9 Projected Economic Capital at 99.0% TVaR for Market risk |  |  |  |
|------------------------------------------------------------|--|--|--|

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

|                                                              |  |  |  |
|--------------------------------------------------------------|--|--|--|
| 10 Projected Economic Capital at 99.95% TVaR for Market risk |  |  |  |
|--------------------------------------------------------------|--|--|--|

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 |                     |                         |                      |

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

|                                                            |  |  |  |
|------------------------------------------------------------|--|--|--|
| 9 Projected Economic Capital at 99.0% TVaR for Credit risk |  |  |  |
|------------------------------------------------------------|--|--|--|

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

|                                                              |  |  |  |
|--------------------------------------------------------------|--|--|--|
| 10 Projected Economic Capital at 99.95% TVaR for Credit risk |  |  |  |
|--------------------------------------------------------------|--|--|--|

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%).

|  |
|--|
|  |
|--|

## 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"/> |
| <b>PROJECTED ECONOMIC CAPITAL AT 99.0% TOVAR (over 1 year time horizon)</b> |                      |                         |                      |
| 5 Projected Economic Capital at 99.0% TVaR for Liquidity risk               | <input type="text"/> | <input type="text"/>    | <input type="text"/> |
| <b>PROJECTED ECONOMIC CAPITAL AT 99.95% TVAR (over 1 year time horizon)</b> |                      |                         |                      |
| 6 Projected Economic Capital at 99.95% TVaR for Liquidity risk              | <input type="text"/> | <input type="text"/>    | <input type="text"/> |

## 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% TOVAR (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"/> |
|-----------------------------------------------------------------|----------------------|----------------------|----------------------|

### 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"/> |
|------------------------------------------------------------------|----------------------|----------------------|----------------------|

## 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.

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

- 5 Projected Economic Capital at 99.0% TVaR for Group, Reputational and Strategic risk.

### 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.

## 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)                                             |   |
| Total capital pre-diversification between risk categories   | - |
| Diversification credit between risk categories              |   |
| Total capital after diversification between risk categories | - |

#### 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> |        |
| 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) 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

|  |
|--|
|  |
|  |
|  |
|  |
|  |

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

- 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.