**Prescribed Scenarios for the stress and scenario testing to be used by authorized insurers carrying on general insurance business for the purpose of Own Risk Solvency Assessment Report (Effective from January 2020)**

## I. Background

I.1. The Guideline on Enterprise Risk Management ("GL21") was published by the Insurance Authority ("IA") on 5 July 2019 and takes effect from 1 January 2020. Section 9 of GL21 sets out the minimum requirements for the Own Risk and Solvency Assessment ("ORSA") Report that each authorized insurer which is subject to GL21 is required to prepare. In particular, paragraph 9.5 (k)(ii) of GL21 stipulates that authorized (re)insurers carrying on general insurance business to which GL21 applies[3] ("general business insurers") should use the scenarios prescribed by the IA ("Prescribed Scenarios") in their scenario and stress testing and include the results, with details of management actions and their impact and justification, in their ORSA Reports. This document sets out the Prescribed Scenarios for the first ORSA Report, which is required for the financial year ending on or after 31 December 2020, and for future ORSA Reports until IA prescribes new scenarios.

I.2. This document should be read in conjunction with GL21. It applies to all general business insurers. Unless otherwise specified, words and expressions used in this document shall have the same meanings as given to them in GL21.

## II. Introduction

II.1. The Prescribed Scenarios in this document are designed so that a general business insurer considers in its ORSA Report:

(a) its capital adequacy in relation to risks which are not adequately reflected in its regulatory capital requirements e.g. Accident and Health accumulation risk, Hull accumulation risk, Liability accumulation risk, etc;
(b) the risk to its capital position of two severe events or stresses happening at the same time; and
(c) the management actions it would need to take in such extreme events or stresses.

II.2. The Prescribed Scenarios outlined in this document are not designed to test for other purposes (e.g. business failure analysis or risk monitoring).

II.3. Where individual general business insurers are identified as having specific types of risk exposures (for example mono-line insurers, insurers with high growth, insurers exposed to failure of certain reinsurers under a loss event, insurers with high concentration of assets from a particular counterparty or a specific asset), IA may request such insurers to test scenarios in addition to the Prescribed Scenarios. In such cases, the case officer at IA will communicate with the general business insurer to identify the additional specific scenario(s) ("Specific Scenario(s)") at least 3 months in advance of the relevant valuation date of the ORSA Report.

[3] Please refer to Section 2 of GL21.

## III. Prescribed Scenarios

III.1. The three Prescribed Scenarios are set out below.

### Prescribed Scenario 1 – Market risk scenario

This scenario is based on the two largest undiversified market risk charges in the prescribed capital requirement (“PCR”) of the regulatory capital requirements for a general business insurer as at the valuation date. Market risk charges in the regulatory capital requirements refer to the risk charges for interest rate risk, credit spread risk, equity risk, property risk and currency risk. In this scenario the general business insurer should assume that there is an instantaneous and permanent reduction in the value of its net assets by an amount which is equivalent to the sum of its two largest undiversified market risk charges, i.e. this scenario is an instantaneous and permanent shock on the valuation date.

### Prescribed Scenario 2 – Self-defined insurance loss scenario

A general business insurer should report the impact of at least one self-defined adverse scenario representing a 1-in-200 (i.e. 99.5% VaR) or more remote event. To determine the scenario, a general business insurer should analyse its key risk exposures and consider a wide range of events with the chosen scenario(s) being that (or those) considered to have the largest financial impact on its PCR solvency ratio, particularly where the risks are not captured or not adequately captured in its regulatory capital requirements. Please refer to **Annex 2** for examples of risks not captured in regulatory capital requirements. It is for the general business insurer to determine the timing of the loss, based on when it would cause the most adverse impact to its PCR solvency ratio.

### Prescribed Scenario 3 – Largest loss scenario with largest market risk scenario

This scenario is the combination of the general business insurer’s largest loss scenario and the largest market risk charge. The largest loss scenario would be taken from Prescribed Scenario 2 above. This is to be combined with the largest market risk charge of the general business insurer under its regulatory capital requirements. The largest loss scenario and the largest market risk scenario should happen simultaneously. It is for the general business insurer to determine the timing of the loss, based on when it would cause the most adverse impact to its PCR solvency ratio.

III.2. A general business insurer is required to carry out testing using Prescribed Scenarios 1 and 3 only if the sum of its two largest undiversified market risk charges is greater than 10% of its eligible capital resources. All general business insurers are required to carry out testing using Prescribed Scenario 2.

III.3. Composite insurers are not required to carry out Prescribed Scenario 1 if any of the market risk scenarios performed under GL21 paragraph 9.5(k)(i) is more severe. In such a case, the worst case market risk scenario under GL21 paragraph 9.5(k)(i) would be adopted within Prescribed Scenario 3.

## IV. Scenario Requirements

IV.1. As stated in section 11.3 of GL21, for the base case to be included in its ORSA Report, a general business insurer, during the Initial Period, should use the regulatory balance sheet and regulatory capital requirements derived from the most recent Quantitative Impact Study ("QIS"), including updates and clarifications made prior to the valuation date of the ORSA Report. The time-horizon for the base case should be consistent with its medium to longer-term business plan i.e. 3, 5 or more years.

IV.2. For each scenario (Prescribed Scenarios 1 to 3 plus any Specific Scenario(s)), a general business insurer should assess the impact of the scenario on its regulatory balance sheet, eligible capital resources and regulatory capital requirements as at the valuation date of the ORSA Report, and the subsequent projection to the business plan time horizon and include the results in its ORSA Report. The general business insurer should firstly assess the impact assuming no management actions are taken. This assessment should include consideration of knock-on effects such as increased reinsurance costs and liquidity implications.

IV.3. For any scenarios that result in the value of a general business insurer's eligible capital resources falling below its Target Capital as defined in GL21, the general business insurer should consider the potential management actions it should take as a result of such scenarios. Both kinds of management actions should be considered, ones that are within the control of the general business insurer as well as ones that require external support (e.g. raising additional capital or support from any group company). Management actions should meet the criteria outlined in GL21 paragraph 6.4.5. Once appropriate management actions have been determined, the general business insurer should assess the positive impact on the value of its eligible capital resources or regulatory capital requirements assuming that the planned management actions are effectively taken, and include such assessment in its ORSA Report.

## V. Scenario Reporting

V.1. The presentation of scenarios in a general business insurer's ORSA Report should cover the following matters:

<u>For Self-defined Insurance Loss Scenario only (Prescribed Scenario 2):</u>

- **Discussion on key risk exposures** – A general business insurer should explain in its ORSA Report its key risk exposures and the range of scenarios it assessed in order to determine the chosen scenario used. The results from the "wide range of events" considered do not need to be reported in detail individually, but should be discussed as part of the general business insurer's justification for selecting the scenario chosen, with an indication of the materiality of each event. The general business insurer should describe the likelihood of the chosen scenario happening.

- **Methodology and assumptions in determining the chosen scenario's loss amount** – A general business insurer should include in its ORSA Report a description of the approach and key assumptions it made and any models or specific software used.

<u>For All Scenarios:</u>

- **Methodology and assumptions in determining the impact of each scenario to the financial and solvency projections of the general business insurer** – A general business insurer should include in its ORSA Report a description of each scenario including key assumptions and limitations, and how knock-on effects have been considered and factored in.

- **Results** – For the results of each scenario, a general business insurer should cover the impact on its PCR, eligible capital resources, PCR solvency ratio and target solvency ratio with and without planned management actions over the business-planning period. An example of how the results could be presented in the ORSA Report is shown in **Annex 1**. Where necessary, the IA may further request general business insurers to provide the underlying projection model or breakdown of results.

- **Impact** – A general business insurer should include in its ORSA Report a description of the impact of each scenario including commentary on the results and, where appropriate, a breakdown of the movements in capital (e.g. by asset/liability type) and PCR (e.g. by PCR risk type).

- **Management actions** – A general business insurer should include in its ORSA Report a description of the management actions, including the order, timing and the impact of the management actions. Elaboration of whether each action has been approved at the Board, senior management or other appropriate level should also be included.

**Annex 1 – Example result layout**

| Base Case | Year 0[4] | Year 1 | Year 2 | Year 3 |
|---|---|---|---|---|
| PCR | 1,026,762 | 1,085,030 | 1,069,696 | 1,106,633 |
| Eligible Capital Resources | 1,637,685 | 1,761,224 | 1,802,525 | 1,880,574 |
| PCR Solvency Ratio | 160% | 162% | 169% | 170% |
| Target Solvency Ratio above | 150% | 150% | 150% | 150% |

| Scenario X | Year 0 | Year 1 | Year 2 | Year 3 |
|---|---|---|---|---|
| **Before Management Actions** | | | | |
| PCR | 1,140,762 | 1,132,530 | 1,016,496 | 1,053,433 |
| Eligible Capital Resources | 1,257,685 | 1,381,224 | 1,422,525 | 1,500,574 |
| PCR Solvency Ratio | 110% | 122% | 140% | 142% |
| Target Solvency Ratio above | 150% | 150% | 150% | 150% |
| **After Management Actions** | | | | |
| PCR | 1,045,762 | 1,037,530 | 921,496 | 958,433 |
| Eligible Capital Resources | 1,457,685 | 1,581,224 | 1,622,525 | 1,700,574 |
| PCR Solvency Ratio | 139% | 152% | 176% | 177% |
| Target Solvency Ratio above | 150% | 150% | 150% | 150% |

| Movement | Year 0 | Year 1 | Year 2 | Year 3 |
|---|---|---|---|---|
| **Before Management Actions** | | | | |
| PCR | 114,000 | 47,500 | -53,200 | -53,200 |
| Eligible Capital Resources | -380,000 | -380,000 | -380,000 | -380,000 |
| PCR Solvency Ratio | -49% | -40% | -29% | -27% |
| **After Management Actions** | | | | |
| PCR | 19,000 | -47,500 | -148,200 | -148,200 |
| Eligible Capital Resources | -180,000 | -180,000 | -180,000 | -180,000 |
| PCR Solvency Ratio | -20% | -10% | 8% | 7% |

General business insurers are expected to add commentary as outlined in Section V.

[4] Valuation date of the ORSA Report.

## Annex 2 - Examples of risks not included in Pillar 1

The following is a list of examples of the insurance risks that are not covered in the Pillar 1 RBC Requirements.

### Insurance risks

- Event hitting multiple lines of business (e.g. property and inland transit)
- Event hitting multiple risks from different geographical locations (e.g. supply chain disruption, contingent business interruption/delay in start-up for construction)
- Multiple natural catastrophe events involving different perils or geographical locations (particularly for companies writing overseas inward reinsurance)
- Flood, drought, and other natural perils
- Man-made events (e.g. explosion or conflagration) for treaty reinsurance business or reinsurers' facultative reinsurance business for all relevant lines of business
- Nuclear Biological Chemical or Radiological (NBCR) risks or terrorism risk
- Business interruption due to non-property damage (e.g. pandemic or other reasons leading to inaccessible building)
- Silent cyber (exposures to cyber risks contained in traditional property and liability policies, where the policies do not explicitly state whether cyber exposure is covered or excluded)
- Motor collision (affecting the motor or general liability lines of business)
- Legal changes to pecuniary loss in personal injury cases (e.g. change to periodical payment order or change to discount rate for lump sum compensation)
- Systemic liability risk for example employees' compensation exposure to infectious disease, professional indemnity market loss in economic downturn (e.g. lawyers, banks, accountants), common practice discovered to be harmful (e.g. doctors), product liability due to product failure, class action from offshore business
- Accident and health risks e.g. explosion or conflagration, pandemic, group travel or personal accident accumulation
- Major buyer default on credit line of business
- Marine e.g. hull accumulation, cargo accumulation, offshore platform explosion and pollution
- Cyber insurance accumulation
- Political insurance line of business
- Long term business risks including morbidity, longevity and lapse