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CONSULTATIVE:

**PROPOSED AMENDMENTS TO THE INSURANCE ACT AND
REGULATIONS TO STIPULATE A STRESS TESTING
PROGRAMME FOR INSURANCE COMPANIES IN JAMAICA**

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PROPOSED AMENDMENTS TO THE INSURANCE ACT AND REGULATIONS TO STIPULATE A STRESS TESTING PROGRAMME FOR INSURANCE COMPANIES IN JAMAICA

Introduction

In keeping with the general duties of the Financial Services Commission (“the Commission”) as mandated by Section 6(1)(a) of the FSC Act, 2001, the Commission is hereby stipulating that all insurers are required to establish, implement and action an effective risk management programme. An integral component of this risk management programme is a comprehensive stress testing programme. This programme should complement other elements and risk quantification methodologies that constitute the insurers’ risk management programme.

It is being recommended that the following amendments be made to the Insurance legislation:

(I) Amendments to Existing Insurance Act & Attendant Regulations

In order to promulgate new regulations that will govern insurers’ stress testing programme, the table lists amendments which will be required.

| Insurance Act / Regulations | Instructions | Reason for amendment |
|---------------------------------------|--|---|
| Insurance Act (“IA”) Section 30(1) | Remove the words “that carries on long term business” | To have all insurance companies conduct annual investigation into their financial condition. |
| Insurance Act (“IA”) Section 30(1)(a) | Insert the words “condition and “ It will now read “each year, cause an investigation to be made by an actuary into its financial condition and position, including a financial valuation of its liabilities; and “ | This will allow for a more thorough investigation which will now examine three items –company’s financial condition, financial position and valuation of its liabilities. |
| Insurance Act (“IA”) Section 30(1)(b) | Remove the words “long term” | The words “long term” does not relate to general insurers, who will now be required to conduct stress testing, prepare and furnish such reports and statements. |

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| Insurance Act / Regulations | Instructions | Reason for amendment |
|---|--|---|
| Insurance Act (“IA”) Section 30(3) | Remove the words “that carries on long term business” | To have all insurance companies conduct annual investigation into their financial condition. |
| IA Section 44 (9) | Remove the words “if so directed by the Commission” | This should be an annual exercise and no longer depends on the Commission’s direction to proceed. |
| Regulations 16, 17, 18 & 19 of the Insurance (Actuaries) (Life Insurance Companies) Regulations, 2001 | Delete | This set of new regulations improves and replaces the existing ones. |
| Insurance Regulations 78 | Delete the words “Actuarial Regulations 2001” and insert “all relevant regulations”. This will now read “ In performing his services, the Actuary shall adhere to and be guided by all relevant regulations, and any Guidelines, Technical Papers and Bulletins issued by the Commission.” | To inform actuaries that they must also comply with this regulation. Further, it prevents the need to adjust this regulation if new regulations concerning actuaries’ work are promulgated. |

(II) New Regulations under Insurance Act 2001

Definitions:

- a. **Risk Management Programme:** Methods and processes comprising of several elements including stress testing conducted by the Appointed Actuary and asset liability management by which the insurer (i) identifies and quantifies all reasonably foreseeable and relevant material risks that an insurance company faces and their interrelationships, and (ii) develop appropriate mitigating actions

- and policies according to the nature, scale and complexity of the risk and its business.
- b. **Stress Testing:** An element of a company's risk management programme which serves to examine a company's financial condition to meet capital and liquidity requirements under severe but plausible adverse scenarios.
 - c. **Breaking Point:** The situation in which a company's results from its stress testing or any other element of its risk management programme breach any of the following:
 - i. Regulatory standards, such as capital adequacy and liquidity benchmarks, as determined by the Commission;
 - ii. Any other benchmark established by the company's Board of Directors ("the Board") and senior management.
 - d. **Reverse Stress Testing:** A type of stress testing, where the stress tests start with a significant negative outcome such as but not limited to (i) the breaching of breaking points, (ii) the loss of public's confidence in the company and (iii) becoming insolvent either on a regulatory or accounting basis. The analysis would then work backward (reverse engineered) to identify the causes and related effects (scenario or combination of scenarios) that could have led to such an outcome.
 - e. **Base Scenario:** a realistic set of assumptions used to forecast the insurer's financial condition and liquidity levels over the forecast period.

1. Application

- i. These regulations will apply to all insurers registered and operating in Jamaica. Additionally, all insurers are required to adhere to any relevant guidelines, technical papers and bulletins issued by the Commission, from time to time.
- ii. These regulations do not restrict an insurer from conducting additional stress testing or any other element of its own risk management programme other than that mandated by these regulations, if an insurer deems it appropriate.

2. Minimum Requirements for Insurers' Risk Management Programme

- i. Board and senior management shall drive and take responsibility for establishing and, developing a comprehensive, and sound risk management programme with appropriate resources and skills in place for each element that comprises the company's risk management programme.
- ii. The risk management programme shall cover all relevant levels of its business, all risk types and over a range of severities.
- iii. Insurance companies shall have clearly documented policies and procedures to enable effective implementation and maintenance of the various elements of their risk management programme. These policies and procedures must be periodically reviewed by senior management. These policies and procedures shall include among other things:

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- a. Clearly defined and assigned responsibilities;
- b. Operational processes, principles, controls and techniques;
- c. Established risk tolerance and breaking points;
- d. Each element of its risk management programme shall be conducted at least annually and at such times
 - i. When there is any significant change in the portfolio or the direction of the company;
 - ii. If a material adverse change in the insurer's circumstances or business environment since the last annual investigation may be so far reaching that to delay reporting to the time of the next annual investigation would be imprudent; or
 - iii. When any significant potential threat to solvency was reported in the previous year.
- e. The design of any model and the regular intervals at which the model used will be validated to ensure reliability.
- iv. Senior management is responsible for (i) directing and executing the various elements of the company's risk management programme, and (ii) reviewing the documented policies and procedures.
- v. After the company has conducted a risk evaluation exercise using any of the various elements of its risk management programme, the Board shall receive a report demonstrating (i) any material and plausible threats to the company's financial condition and (ii) possible courses of action for the company's consideration in addressing the threats.
- vi. The Commission may, from time to time, require that the reports mentioned in (v) above be submitted to the Commission.

3. Stress Testing

- i. The Appointed Actuary shall conduct comprehensive stress testing when the insurer is actively soliciting new business.
- ii. The Appointed Actuary shall not use a comfortable surplus or liquidity level to justify doing little or no stress testing but shall develop and maintain an informed judgement about how much is comfortable and how quickly the surplus or liquidity level could be depleted.
- iii. Stress tests must apply across business and product lines both in and outside of Jamaica. These tests should cover a wide range of risks, all level of its business and a range of scenarios, including historical and hypothetical scenarios, and take into account system-wide interactions and ripple effects.
- iv. Senior management shall be actively involved throughout the process including in the selection of severe but plausible scenarios
- v. The Commission may require a company to test additional adverse scenarios in its annual stress testing exercise
- vi. The Commission may also direct a company to conduct additional periodic stress testing.

4. Materiality Standard

- i. The Appointed Actuary shall establish standards of materiality applicable to investigating solvency and liquidity conditions.
- ii. In assessing whether a potential threat is likely to have a material impact on an insurer's financial condition, consideration shall be given to:
 - a. The size of the insurer's business;
 - b. The risk profile of each line of business;
 - c. The current financial state of the insurer as it relates to liquidity and adequacy of surplus;
 - d. The company's preparedness to detect changes in experience;
 - e. The company's ability and willingness to implement changes in key management policies, such as pricing for new business, underwriting and investments.
 - f. The nature of the regulatory test. For example, if the regulatory test is measuring required capital, the materiality standard might be expressed as a percentage of the required capital.
- iii. While the standard of materiality would usually be no less stringent than that used for valuation of the insurer's policy liabilities, the Appointed Actuary shall apply a more rigorous standard of materiality when examining a base scenario where the solvency and liquidity condition is in close proximity to the breaking points.

4. Base Scenario

- i. The base scenario shall comprise the Appointed Actuary's best estimate of a company's financial position, financial condition and liquidity levels, based on a realistic and consistent set of assumptions applied over the projection period as stated in 5(iii), below. The Appointed Actuary shall take into account, amongst other considerations, the insurer's marketing plans, sales objectives, investment policies, pricing practices and underwriting practices.
- ii. Where the Appointed Actuary's best estimate of future experience differs materially from those on which the company's business plan is based, the Appointed Actuary shall-
 - a. perform projections under both sets of hypotheses and determine whether the base scenario should reflect the Appointed Actuary's best estimate or the company's plan;
 - b. disclose in the report which basis was chosen for the base scenario and include a discussion of the points of variance and their relative significance.

5. Projection Period

- i. The projection period begins at the most recent available financial year-end.
- ii. The projection period may be chosen to be consistent with the company's internal business planning horizon but, in choosing the period, the Appointed Actuary shall ensure that it is sufficient to capture the impact of adverse events in

assumptions in the various scenarios to be observed and for the ability of management to act.

- iii. The requirement as to the choice of the projection period in the above paragraph will normally be satisfied by a projection period of a minimum of five years for a life insurer and three for a general insurer.
- iv. Throughout the projection period, the determination of valuation assumptions and the valuation method shall, as far as possible, be consistent with that of the most recent valuation, or where possible, the Appointed Actuary's intended approach to the next valuation.
- iv. The valuation assumptions in the projection period shall reflect the emerging experience within the scenario.

6. Initial Stress Testing

- i. Investigation shall commence with assessment of the risk categories and identification of those that are relevant to the insurer's circumstances. Sensitivity testing may be used to determine the relevant risk categories for the company.
- ii. The Appointed Actuary shall conduct sensitivity analyses at the level of individual exposures, portfolios or business units, as well as company-wide, against specific risks.
- iii. In conducting these tests, the Appointed Actuary shall -
 - a. Perform a review of the financial results, the liquidity and solvency levels of the three most recent years. The Appointed Actuary should analyze recent trends in these statements and should investigate the circumstances and key factors contributing to those trends;
 - b. Consider the sensitivity of solvency and liquidity levels to changes in various experience factors and management policies.
 - c. Include both the business in force and anticipated new business; and
 - d. Include projections of the company's solvency and liquidity levels under a variety of scenarios, including a base scenario as described in 4 (i) and a number of adverse scenarios designed to investigate the company's sensitivity to various threats.
- iv. The initial testing shall also include the scenarios that the Commission may stipulate from time to time. These scenarios shall be tested in a manner that is applicable to the insurer's circumstances. The specific rates of deterioration may only be adjusted to produce a more consequential test in instances when the minimum specified scenarios would not adequately stress an insurer's financial condition. An explanation must be given if the specified scenarios were not used at all or were adjusted to produce a more significant test.

7. Further Testing

- i. Following the initial testing of adverse trends in single assumptions, the Appointed Actuary shall investigate such additional scenarios where the Appointed Actuary:
 - a. Believes it is necessary to reflect the particular circumstances of the company,
 - b. Believes the need exists to be more knowledgeable about those adverse trends considered more likely to occur or to be more significant for the company,
 - c. Is concerned that the magnitude of the deviation in a particular scenario may not be a suitable indicator of the true sensitivity to that assumption,
 - d. Believes that a single test is inadequate to depict the true sensitivity or if it is suspected that the relationship between changes in the assumption and the resulting surplus level is not close to linear;
 - e. Believes that the impact on the projected surplus of adverse deviations in more than one assumption occurring at the same time may be more than the sum of the impacts of the individual deviations and some assumptions are normally interrelated, and their combined effect should be studied.
- ii. Having identified the relevant risk(s), the Appointed Actuary shall conduct additional tests in order to determine how much the risk factor(s) in question would have to change in order to cause a company's financial condition and liquidity levels to cross breaking points during the projection period.
- iii. Scenario tests shall incorporate the simultaneous occurrence of events, system-wide interactions and ripple effects. Furthermore they must be (i) forward-looking, and (ii) severe but plausible.
- iv. The Appointed Actuary shall conduct reverse stress tests.
- v. Having identified any significant and plausible threat to (i) the financial condition and liquidity levels of the firm or (ii) any of the company's breaking points that have been determined by the firm's Board and senior management or the Commission, the Appointed Actuary shall:
 - a. Explore a variety of scenarios to determine any course of action to mitigate the risk and in doing so, the Appointed Actuary
 - I. May consider varying such matters that are within management control such as the growth rate of new business, the investment policy, the business strategy including a reduction of exposures to specific sectors, countries, regions, instruments or portfolios, increasing the solvency and liquidity cushion, and the practice of adjusting premiums.
 - II. Shall not consider any actions that are not entirely within management control.
 - b. Communicate these threats and any credible mitigating action in the report to the Board and the Commission as required by section 44(10) of the Insurance Act 2001.

8. Modelling Techniques and Documentation

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- i. The Appointed Actuary shall choose an appropriate method to develop model(s) that is applicable to the circumstances of the company.
- ii. The method used to model adverse scenarios may be deterministic, stochastic or a combination of the two.
- iii. Models shall be regularly validated to ensure reliability.
- iv. An insurer shall keep adequate documentation of the work performed, including documentation of:
 - a. The model, assumptions used and the numerical results of all the scenarios tested;
 - b. The justification for not testing certain scenarios; or
 - c. The lines of business judged to be immaterial.
- v. The entire stress testing process shall be well documented. A procedures manual of the stress testing process shall include the following at a minimum:
 - a. The basic principles of the stress testing approach;
 - b. The quantitative and qualitative techniques to be employed;
 - c. The design of the stress testing models;
 - d. The controls and procedures integral to the stress testing process; and
 - e. The criteria used to determine the scenarios to be tested.
- vi. The Appointed Actuary shall keep detailed documentation of the work performed, including documentation of-
 - a. The methods, assumptions used and the numerical results of all the scenarios tested; and
 - b. The justification for not testing certain risks or blocks of business judged to be material.

9. Written Report

- i. The Appointed Actuary should provide a written report each year to the Board or its designate, outlining the investigation performed and presenting the significant findings and conclusions.
- ii. The purpose of the report is to advise the Board of material, plausible and imminent threats to the company's solvency and where possible, the report shall describe possible courses of action for the company's consideration in addressing the threats.
- iii. The report to the Board shall -
 - a. be an interpretative report of the underlying results;
 - b. be structured in a fashion that allows for concise, yet meaningful, summaries to be delivered to the Board;
 - c. highlight those findings that are significant with respect to threats to solvency and liquidity;
 - d. discuss the projected impact of realizing the current business plan;
 - e. describe the current investigation performed and disclose the degree of reliance on previous years' work or on other sources of information;

- f. confirm compliance with these Regulations and any other professional standards;
- g. disclose any unusual or unforeseen circumstances that make certain professional standards inapplicable to or inappropriate for any material blocks of business.
- iv. The Appointed Actuary may also disclose potential favourable trends in the report.
- v. A copy of the report shall be submitted to the Commission on or before the submission of the Annual Filing.
- vi. The format of the stress testing report shall be prescribed in Appendix 1 of these regulations.

10. Board's Response

- i. After having received the Appointed Actuary's annual report as in (9), the Board or its Designate shall provide in writing to the Appointed Actuary its feedback which shall indicate whether the Board or its Designate is satisfied that:
 - a. The company's procedures and policies have been adhered to,
 - b. All relevant and material adverse scenarios have been tested
 - c. The report has (i) identified a number of plausible threats and (ii) recommended a number of credible mitigating actions that could be pursued if these threats were to materialise.
 - d. The report was presented in a manner the Board understands the circumstances under which the company could fail and be satisfied with the level of risk mitigation that is built in.
- ii. A copy of this letter shall be copied to the Commission within thirty days after submission of the Annual Filing.

APPENDIX I

The format of the Appointed Actuary's report shall at least have the following sections included in the report in this order:

1. Executive Summary

The recommendations and results of the stress testing exercise are to be summarized. The most significant risks and threats to the maintenance of a satisfactory solvency and liquidity levels shall be highlighted. The summary shall also include a review of the significant events that occurred since the last Appointed Actuary report was submitted.

2. Introduction

This provides a description of the purpose and basis of the Appointed Actuary's report. It includes a description of the role and responsibility of the Appointed Actuary, the purpose and scope of the Appointed Actuary's report and an overview of the processes and methods used in

the sensitivity and scenario testing. This section should also provide any limitations and any other disclosures that the Appointed Actuary deems relevant.

3. Background

This includes an overview of the insurer, a summary of the nature of the insurer's business, products and target markets. A brief discussion on the recent and current financial position shall be included. A discussion of prior year's solvency and liquidity levels, recommendation and possible management actions is also to be included so as to maintain continuity between the past and present reports.

4. Base Scenario

A clear description of the base scenario shall include:

- Description of the main assumptions and methods used to project the base scenario;
- Discussion of consistency of the base scenario to the insurer's business plan; and
- Results of the financial conditions over the appropriate projection period

5. Initial Testing

This section provides detailed descriptions and results of the selected sensitivity tests. It also identifies the risks that are relevant and material to the company. For each sensitivity test and adverse scenario including the ones stipulated by the Commission, the following shall be included where applicable:

- Description and key assumptions of the risk being tested and why the risk is significant to the insurer;
- Comparison to scenarios used in the prior year's report and the consistency of the prior year's results obtained;
- Description of the key financial results and the change from the corresponding base scenario results. This allows the readers of the report to fully comprehend the threats the various scenarios present;
- Discussion of any possible regulatory actions and repercussions if the scenario results falls below the capital and liquidity requirement.
- Key assumptions and the manner in which the predetermined scenarios were applied to the insurer.
- Any change in the predetermined scenarios and justification for the change
- Key financial results and the change from the corresponding base scenario results.

6. Further Testing

This section provides detailed descriptions of the selected scenarios that pose the greatest risk to the insurer or in which the insurer reaches the breaking point as determined by the Commission and/or the Board. It should also report on the possible scenarios derived from the reverse stress testing. The level of disclosure included in the report is to be similar to that of Section 5.

7. Conclusion and Recommendations

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This section shall contain overall conclusions from the stress testing performed. A brief description and summary of the results of the base and adverse scenarios are to be included. The most significant risks to capital adequacy, liquidity and threats to satisfactory financial condition shall be highlighted. Recommendations on how to better manage or mitigate risk exposures shall be made. Possible management actions shall also be considered.

8. Opinion

The Appointed Actuary shall include a signed opinion on the financial condition of the insurer. The opinion of the Appointed Actuary shall have the following format: [insert appropriate wording where indicated by square brackets]

I have examined the future financial condition of [company] as at [date]. In my opinion, the investigation has been carried out in accordance with the stipulations of the Commission.

.....
Name of the Appointed Actuary
Date Include name, title and qualification

.....
Signature of Appointed Actuary

9. Appendices

The appendices shall include any table, graphs or any other additional information that are considered to be pertinent to the report.