RGA

RGA International Reinsurance Company dac
Singapore Branch

MAS Notice 124 Public Disclosures

for the year ended December 31, 2019

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Overview of this document

The Monetary Authority of Singapore ("MAS") requires certain disclosures to be made which enable market participants to assess information on a business' risk profile, performance, and capital and risk management procedures. This document is designed to provide these disclosures and applies to RGA International Reinsurance Company dac Singapore Branch, and to its ultimate parent company, Reinsurance Group of America, Incorporated.

a) Company profile

Reinsurance Group of America, Incorporated (RGA)

Reinsurance Group of America, Incorporated ("RGA") is an insurance holding company, the principal assets of which consist of several reinsurance operating companies and their branches, including RGA International Reinsurance Company dac.

RGA was formed on December 31, 1992, and has since grown to become a leading global provider of traditional and non-traditional life and health reinsurance with operations in the United States, Latin America, Canada, Europe, Africa, Asia, and Australia. Today, RGA serves clients in more than 80 countries from its operations in 26 countries.

A FORTUNE 500 company, RGA has been listed on the New York Stock Exchange since 1993 (NYSE: RGA). As of December 31, 2019, RGA had approximately $3.5 trillion of life reinsurance in force, consolidated assets of $76.7 billion, and total annual revenues of $14.3 billion.

RGA International Reinsurance Company dac (RGAI)

RGAI was established in Ireland in 2003 as a wholly owned subsidiary of ultimate parent company RGA Inc. It is regulated by the Central Bank of Ireland and operates throughout Europe through a branch network. In November 2015, RGAI established a branch office in Singapore, RGA International Reinsurance Company dac Singapore Branch.

RGAI is a wholly owned subsidiary of RGA Americas Reinsurance Company, Ltd., a Bermudian reinsurance company which is 100% owned by RGA Inc.

RGAI has received an 'AA-' issuer credit and financial strength rating from Standard and Poor's. More information is available on the company's website, www.rgare.com, or by clicking here.

RGA International Reinsurance Company dac Singapore Branch (RGA Singapore)

RGA Singapore offers insurers a comprehensive line of products and services, including individual life reinsurance, group life reinsurance, health reinsurance, living benefits reinsurance (critical illness, long-term care, and related risks), facultative and electronic underwriting, risk management, claims support, and product development. In addition, RGA pioneered the use of reinsurance as a financial management tool and offers financial solutions expertise to help clients manage risk and capital.

b) Corporate governance framework and management controls

RGA International Reinsurance Company dac

RGAI is committed to ensuring an effective system of governance is in place to provide for sound and prudent management of the business. The governance structure has been developed giving due regard to the nature, size, and complexity of the company and is in accordance with the European Solvency II Directive and the Central Bank of Ireland's Corporate Governance Requirements for Insurance Undertakings 2015.

The RGAI Board of Directors is responsible for the corporate governance framework and reporting to the ultimate parent, RGA Inc. The Board has established appropriate corporate governance principles and policies, and ensures the company is managed in accordance with those principles and policies. Its Audit Committee, Risk Management and Compliance Committee, and Investment Committee are each chaired by an independent non-executive director. These committees receive regular updates from control function holders, including the Chief Risk Officer, Head of Actuarial Function, Head of Compliance, Head of Internal Audit, and Head of Finance.

The Managing Director of RGAI, based in Ireland, is responsible for the governance and operations of the company and reports directly to the Board on matters of corporate governance. Individual branch managers are responsible for the activities of their local teams, which typically consist of the client-facing business development and underwriting staff. Each branch has a clearly defined mandate and authorities delegated from the Board within which it operates.

RGAI's control framework is structured to ensure that risks are identified and appropriately managed and that internal controls are in place and operating effectively. The control function holders attend meetings of the committees as appropriate to report on their functional area:

- The Chief Risk Officer (CRO) is responsible of the implementation of RGAI's risk management framework. The CRO reports to the Managing Director and to the Risk Management and Compliance Committee on all matters of risk management.
- The Head of Actuarial Function (HoAF) is responsible for the coordination and monitoring of the evaluation of technical provisions, including methodology, assumptions, data, and reporting. The HoAF also supports the risk management function.
- The Head of Compliance is responsible for providing assurance that the compliance risks of RGAI are appropriately managed and identified.
- The Head of Internal Audit is responsible for auditing the risk management control and governance processes.
- The Head of Finance is responsible for monitoring the financial risks.

RGA Singapore

RGA Singapore is committed to ensuring an effective system of governance is in place for the branch and is aligned with that of RGAI. The governance structure for the branch has been developed giving due regard to the Monetary Authority of Singapore's requirements.

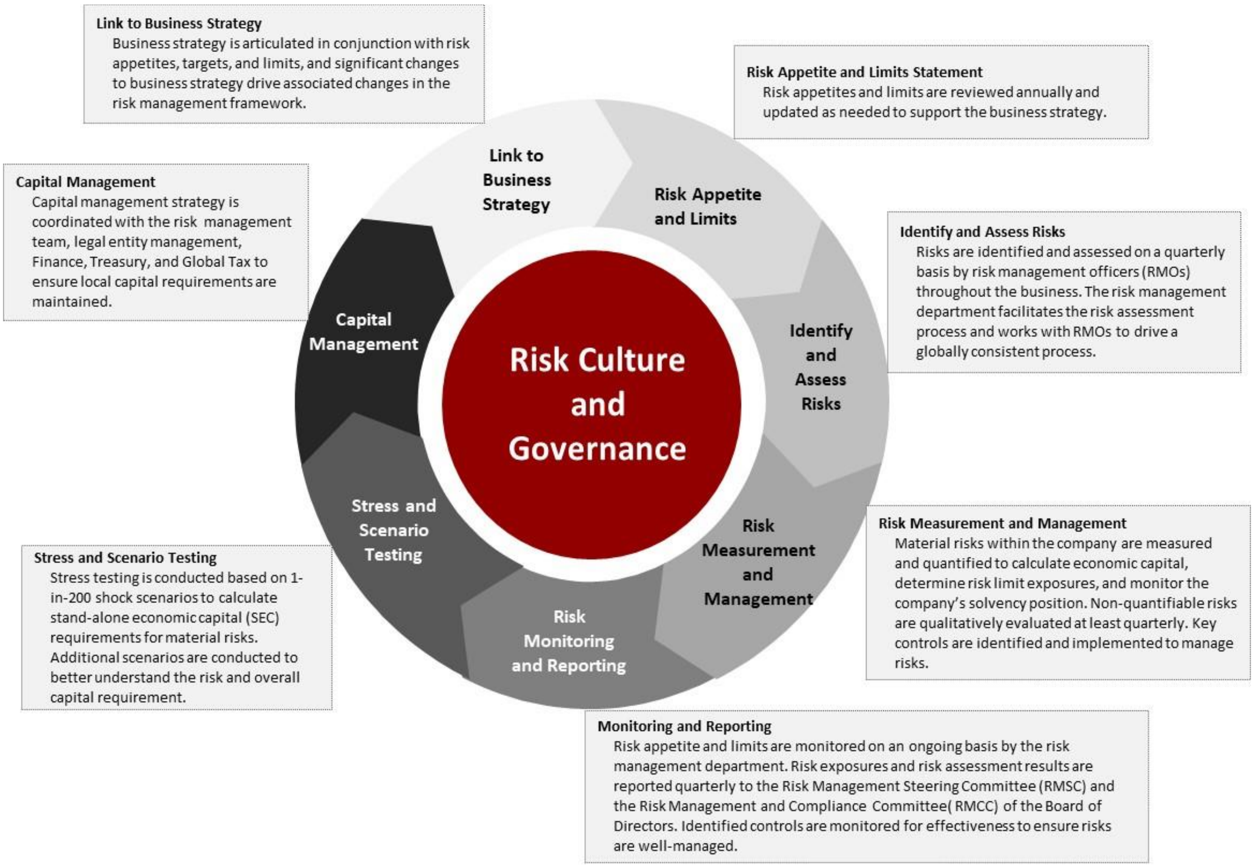
As Chief Executive, Andy Hui (effective from 1 May 2017) has responsibility for RGA Singapore, and reports to the Managing Director of RGAI. A local Finance Manager has responsibility for the RGA Singapore finance function including regulatory reporting. The local Compliance Officer has responsibility over the corporate and regulatory compliance for the branch. The Appointed Actuary function is outsourced to Willis Towers Watson, Singapore.

RGA Singapore is supported by RGAI and other RGA Group companies. These relationships are governed by services agreements under the responsibility of Andy Hui.

c) <u>Risk management and asset-liability management</u>

RGAI Risk Framework

Risk management is integrated within the business planning and strategy setting and is aligned to risk appetite. Through the management of common risks across the enterprise via the implementation of a robust risk assessment process, RGAI is able to improve capital deployment and resource allocation and reduce operational losses and surpluses as well as protect its reputation and brand through an enhanced understanding of risks while feeding into the decision making process. The goal is to have a robust risk governance framework with transparency of risks to Senior Management and the Board of Directors, to enable improvements in performance and the ability to establish competitive advantages while optimising the cost of risk management. The RGAI framework closely follows the Enterprise Risk Management (ERM) Framework illustrated in the pin wheel below. RGAI's ERM Framework, its components and associated processes are adopted and implemented within RGA Singapore.



Risk Culture and Governance

A Group-wide risk management culture is the backbone that holds the ERM framework together, embedding risk management in all of the Group's business processes in accordance with its risk philosophy. Risk culture plays a prominent role in the effective management of risks that RGAI and RGA Singapore assumes. RGAI's and RGA Singapore's risk culture is focused on prudent risk management and the application of established best practices.

RGAI's risk management activities and all associated processes entail strong Board governance. Through the facilitated and ongoing risk monitoring process, review and continuous improvement, RGAI encourages a culture of sharing and open communication. A positive risk culture stems from personal accountability and responsibility where everyone is aware of what they need to be doing. This positive culture is further enhanced by ensuring that as many staff as possible receive regular enterprise risk management training and remain at the forefront of latest thinking. A rigorous annual training program is undertaken by the ERM function across all countries within RGAI, including the RGA Singapore, reinforcing the message of openness and accountability.

Risk Assessment Process

In order to ensure that senior management and risk oversight committee members receive accurate risk information, RGAI assigns roles and responsibilities for risk management in a fashion that reflects the complexities inherent in its global and regional business model.

The ERM function facilitates the regular risk assessment process as described in the RGAI's ERM Framework. The process followed is performed using a consistent risk assessment methodology across all offices adhering to the risk management practices and procedures.

In summary the Risk Assessment process encompasses:

- Risk Identification.
- Risk Measurement.
- Risk Management.
- Risk Monitoring.
- Risk Reporting.

The Enterprise Risk Management Framework outlines the process in more detail and is available upon request.

Risk Policy Framework

As part of the Risk Governance Framework, the RGAI maintains risk policies that are Board approved and reviewed on a regular basis. All policies are aligned to the RGAI Strategy and Risk Appetite and are in line with Solvency II principles. These policies are reviewed on an annual basis to ensure that the key messages align to the Group's values and Solvency II requirements. Where applicable, RGA Singapore adopts the relevant RGAI risk policies.

Roles and Responsibilities

- **Board of Directors**: Through the Risk Management and Compliance Committee ("RMCC" a Board of Directors Committee) the Board oversees the management of the RGAI's ERM program and policy. The RMCC is a committee of the RGAI Board. The Board and RMCC meets quarterly.

- **Risk Management Steering Committee ("RMSC"):** The objective of the RMSC is to support the Chief Risk Officer ("CRO") by understanding the risks undertaken by the organisation and to oversee the management of these risks. The RMSC meets quarterly and reports to the RMCC.
- **CRO (and team):** The ERM team ensures all risks facing RGAI are prudently managed and material risks are reported regularly to management. Responsible for embedding risk management into RGAI, promoting risk awareness and a risk culture conducive to best practice risk management in line with RGAI's risk philosophy. An equivalent and complementary Risk function is also implemented within RGA Singapore.
- **Management**: RGAI's management is responsible for managing all risks taken by RGAI.
- **Associates ("staff")**: Associates form the first line of defence and their involvement is critical for interweaving risk management with daily activities including the identification and escalation of emerging risks.

Risk Taxonomy

RGAI's risks are categorised in a Risk Taxonomy with five Risk Types (Level 1) of Insurance, Market & Credit, Capital, Operational and Strategic and corresponding Risk Categories (Level 2) and Sub Risks (Level 3). This is in line with industry practice and fits well in the way that the Company manages and quantifies its risks and calculates it economic capital. The definitions of the Risk Types are as follows:

- **Insurance:** The risk of lower or negative earnings and potentially a reduction in enterprise value due to a greater amount of benefits and related expenses paid than expected, or from adverse policyholder or client behaviour.
- **Market and Credit:** The risk of lower/negative earnings and potentially a reduction in enterprise value due to unexpected changes in market prices or volatilities of market prices of an individual asset. Note: Market risks include Policyholder Behaviour related to market changes.
- **Capital:** The risk of lower/negative earnings, potential reduction in enterprise value and/or ability to conduct business due to insufficient financial capacity.
- **Operational:** The risk of lower/negative earnings and a potential reduction in enterprise value caused by unexpected losses associated with inadequacy or failure on the part of internal processes, people and systems or from external events.
- **Strategic:** The risk related to planning, implementing and managing RGAI's strategic business model.

Risk Taxonomy - Risk Types, Risk Categories and Sub Risks

Risk Type (Level 1)	Risk Category (Level 2)	Sub- Risks (Level 3)
Insurance Risk	Mortality	•Misestimation •Volatility •Catastrophe •Pandemic •Trend
	Morbidity	•Misestimation •Volatility •Catastrophe •Pandemic •Trend
	Longevity	•Misestimation •Volatility •Trend
	Client Recapture	n/a
	Policyholder Behaviour	•Lapse Support •Lapse Sensitive •Other
Market and Credit Risk	Equity	•Equity Up •Equity Down •Equity Volatility •Equity Volatility Skew
	Interest Rate	•Increasing Interest Rates •Decreasing Interest Rates •Current Interest Rates
	Real Estate	n/a
	Credit	•Insurance Counterparty •Invested Asset •Derivative Counterparty
Capital Risk	Capital	•Earnings Volatility •Ratings
	Collateral	•Interest Rate Movement •Collateral Requirements •Capital Markets •Certified Reinsurer Secure Level
	Currency	•Economic Exposure •Financial Exposure •Currency Movements
	Financing	•Regulatory Financing •Contingency Financing •Debt Capital
	Liquidity	•Capital Markets •Interest Rate Movements
	Tax Related	•Local Taxing Authorities

Risk Type (Level 1)	Risk Category (Level 2)	Sub- Risks (Level 3)
Operational Risk	Business Conduct & Governance	• Corporate Oversight & Management • Legal Operations • Market Conduct
	Fraud	• Unauthorized Activity • Internal Fraud • External Fraud
	Privacy & Security	• Data Theft • Accidental Data Disclosure • Physical Assets Theft
	Business Disruption	• Unavailability of People • Unavailability of Systems • Unavailability of Facilities
	Human Capital	• Talent Acquisition • Workplace Capability & Capacity • Workplace Safety • Employee Relations & Regulatory • Organizational Change
	Business Operations: Administration Claims Financial Reporting Investment Operations Pricing Process Retrocession Underwriting Valuation	• Transaction Processing • Data Use, Quality & Management • Monitoring & Reporting • Model Risk • Third Party • Advisory Services
Strategic Risk	External Environment	•Competitors •Macro Trends •Client Needs
	Key Relationships	•Analyst & Agency Relationships •Business Relationships
	Strategy	•Strategic Planning & Execution •Mergers & Acquisitions
	Political & Regulatory	•Sovereign •Regulatory Change

Asset-Liability Management (ALM)

Liability cash flows are generated on a best-estimate basis by currency, with corresponding scenario analysis if the liability has features or options that could materially change the liability cash flow profile. This best-estimate liability is compared to assets backing the liability in the same currency on multiple metrics. This comparison results in a target duration and range for the asset portfolio(s).

Portfolio duration is tracked relative to targets within RGAI's compliance system, which notifies portfolio management when portfolio duration falls outside the target range. The target duration and range are impacted by the amount of assets relative to the amount of liabilities, with any surplus assets having a broader acceptable duration range but shorter target duration than the liabilities, generally. The analysis of liquidity strain informs asset allocation. As the invested assets are entirely cash and public securities, liquidity is more than sufficient given existing liabilities.

The optimization process is primarily based on an economic best-estimate perspective. The impacts on a GAAP-accounting basis and the relevant statutory basis are evaluated in parallel to assure acceptable results from all perspectives.

d) Quantitative and qualitative information on reasonably foreseeable material insurance risk exposures

Information on these exposures can be found in the "Risks Related to Our Business" section starting on page 18 of the 2019 RGA Annual Report, available by clicking here.

e) Quantitative and qualitative information about technical provisions including future cash flows

Policy Liability

The primary liabilities of RGA Singapore consist of risk premium mortality and morbidity business, under which RGA Singapore is paid a series of premiums based on an increasing rate scale by policy year, which bears a reasonable relationship to the anticipated mortality pattern with a provision for profit.

The determination of policy liability is dependent on the assumptions made by RGA Singapore. Actual future experience may deviate from such estimates. RGA Singapore monitors the emerging experience by analyzing the loss experience from both internal claims reports and the external market data. Experience is closely reviewed on individual reinsurance contracts and ceding client company levels. Estimates are revised in light of emerging experience if appropriate.

Reserving Approach

The policy liability is calculated as the sum of the premium liability and the claims liability. Both liabilities are determined under the best-estimate basis with the provision made for any adverse deviation from the expected experience. The valuation of policy liability is carried out in compliance with the "Insurance Valuation and Capital Regulations 2018" issued by the Monetary Authority of Singapore ("MAS").

Premium Liability

In terms of long-term businesses, a gross premium valuation ("GPV") is utilized in accordance with the regulations, with a certain floor imposed at treaty level. The reserve is calculated as the present value of future expected outgo less future income, from the projection model over the outstanding duration of the treaties.

The predominant mortality rate assumption is based on a certain percentage of the Singapore insured table S0408 to establish the best estimate assumptions with reference to past mortality analysis and the historical mortality claims experience. Provisions for Adverse Deviation (PAD) are added on top of the best estimate assumptions to come up with regulatory basis for base liability calculation.

The valuation interest rates are determined in accordance with MAS 319 "Notice on Valuation of Policy Liabilities of Life Business" issued on the 19 of December 2018. They are derived from the government bond yield as at the valuation date corresponding to the currency of the reinsurance treaties.

In terms of renewable treaties, the premium liability shall be the higher of the unearned premium reserve ("UPR") and the unexpired risk reserve ("URR"):

- UPR is calculated as the annualized premium multiplied by the outstanding duration as at the valuation date for each treaty.
- URR is determined as a certain percentage of the unearned premium, with the consideration of expected future claims payment, expenses expected to be incurred in administering policies and setting relevant claims, and provision made for any adverse deviation from the expected experience.

Claims Liability

The claims liability is taken as an estimate for the incurred but not reported (IBNR) claims at the valuation date. It is based on expected mortality rates and the claim reporting lags between the insured and the ceding company, as well as the reinsurance statement lags between the ceding company and RGA Singapore.

f) Quantitative and qualitative information about capital adequacy

Capital Adequacy

At 2019 year-end, RGA Singapore was compliant with the MAS capital requirements, with a 417% capital-adequacy ratio. The resultant increase over 2018 CAR of 06% was mainly due to the branch's increased retained earnings position over the year.

Our statutory returns are published by the MAS on its Insurance Company Returns site, available by copying the hyperlink here.

Capital Assessment

RGA Singapore monitors its regulatory solvency through the risk-based framework prescribed by MAS. The total risk requirements can be broken down into three components:

- C1: This component reflects the impact on policy liability calculation due to adverse deviation in insurance assumptions.
- C2: This component reflects market, credit and mismatching risk charges on both assets and liabilities.
- C3: This component covers concentration risk charges on assets. The limit on each asset category is set out by MAS and any asset amount exceeding the limit is to be set as risk charges.

Various risk charges from these components are considered in RGA Singapore's regulatory capital model. The calculation is consistent with the MAS regulations.

g) Quantitative and qualitative information about its financial instruments and other investments

The primary investment objective is to ensure adequate funds to meet reinsurance obligations. This is done through prudent risk management, diversification and achieving long-term return targets.

RGAI strives to take risks which are well-understood and well-priced. To that end, portfolio size, duration, and liquidity requirements are informed by targets arising from a robust ALM process, which informs investment policy and guidelines, as well as RGAI's compliance system. Operating within these bounds, the investment team focuses primarily on credit risk, searching for opportunities in which solid fundamental credit analysis allows a determination of an excellent risk/reward profile. In addition, RGAI's investment policies state minimum rating requirements as well as prudent diversification among issuers and sectors. Capital for credit risk is held based on existing regulatory requirements as well as internal capital models. RGA Singapore's existing asset portfolio is rated AA on average based on S&P and/or Moody's ratings. RGA Singapore only invests in public fixed-income markets, where valuations are highly transparent.

h) Quantitative and qualitative information on financial performance

Information regarding the financial performance of RGA is available from the RGA website, www.rgare.com, in the "About RGA" and "Investors" pages.

Information regarding the financial performance of RGA Singapore is available from MAS's Insurance Company Returns by copying the hyperlink here, and ACRA's Bizfile by clicking here.