

BANK NEGARA MALAYSIA
CENTRAL BANK OF MALAYSIA

Risk-Based Capital Framework for Insurers [Version 3.0]

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PART A OVERVIEW

1. Objectives

1.1 The requirements detailed in the Risk-Based Capital (RBC) Framework (the Framework) aim to ensure that each insurer maintains a capital adequacy level that is commensurate with its risk profile at all times. The Framework has been developed based on the following principles:

(i) Allowing greater flexibility for an insurer to operate at different risk levels in line with its business strategies, so long as it holds commensurate capital and observes the prudential safeguards set by Bank Negara Malaysia (the Bank);

(ii) Explicit quantification of the prudential buffer with the aim of improving transparency;

(iii) Providing incentives for insurers to put in place appropriate risk management infrastructure and adopt prudent practices;

(iv) Promoting convergence with international practices so as to enhance comparability across jurisdictions and reduce opportunities for regulatory arbitrage within the financial sector; and

(v) Providing an early warning signal on the deterioration in capital adequacy level, hence allowing prompt and pre-emptive supervisory actions to be taken.

1.2 The Framework sets out:

(i) Requirements applicable to each insurer to determine the adequacy of the capital available in its insurance and shareholders' funds to support the 'Total Capital Required' (TCR). This serves as a key indicator of the insurer's financial resilience, and will be used as input to determine supervisory interventions by the Bank.

(ii) The statutory valuation bases for insurers' assets and liabilities and the Bank's expectations on the investment and risk management policies of insurers.

2. Legal provisions

2.1 The requirements in the Framework are issued pursuant to Section 23 of the Insurance Act 1996 (Act).

3. Applicability

3.1 The requirements in the Framework are applicable to all insurers, including reinsurers, licensed under the Act for businesses generated from within and outside Malaysia. Unless otherwise mentioned, the term "insurer" under the Framework includes a professional reinsurer, as defined in the Act.

3.2 Businesses outside Malaysia generated by a branch of a foreign insurer may be exempted from the requirements of the Framework, subject to the Bank's prior approval where:

(i) there is an explicit undertaking from the branch's head office to satisfy the liabilities arising from businesses outside Malaysia in the event that the branch is unable to fulfil its obligations;

(ii) the financial position of the foreign branch's group is strong;

(iii) the branch is subjected to consolidated supervision by a recognised and competent home supervisory authority; and

(iv) the foreign insurer's home supervisory authority is willing to cooperate with the Bank in the supervision of the insurer.

4. Effective date

4.1 The Framework takes effect from 1 January 2009.

5. [Deleted]

PART B CAPITAL ADEQUACY

6. Capital Adequacy Ratio – the formula

6.1 The Capital Adequacy Ratio (CAR) measures the adequacy of the capital available in the insurance and shareholders' funds of the insurer to support the total capital required. The formula to compute the CAR is as follows:

$$CAR = \frac{Total\ \ Capital\ \ Available}{Total\ \ Capital\ \ Required}\ X\ 100\%$$

6.2 For a life insurer with participating business, the CAR shall be computed as follows:

$$CAR_{Life} = \min\left(CAR_{all_funds,}\ CAR_{all_funds_excl.par}\right)$$

where,

- $CAR_{all_funds,}$ is the CAR taking into account all the insurance and shareholders funds; and
- $CAR_{all_funds_excl.par}$ is the CAR taking into account all the insurance and shareholders funds, excluding the participating life insurance fund.

The modified computation method reflects the ability of life insurers, subject to meeting policyholders' reasonable expectations, to adjust the level of non-guaranteed benefits to take into account the emerging experience of the participating life insurance fund. It also preserves the fundamental principle that the valuation surplus of the participating life insurance fund should not be used to support the capital requirement of other insurance or shareholders' funds.

7. Total capital available

7.1 The 'Total Capital Available' (TCA) of an insurer is the aggregate of Tier 1 and Tier 2 capital of the insurer less deductions in paragraph 8.1. The main criteria used in the classification of a capital element into Tier 1 or Tier 2 categories is the degree of its permanence and whether it is free and clear of any encumbrances.

7.2 The total amount of Tier 2 capital must not exceed the amount of Tier 1 capital.

7.3 Tier 1 capital of an insurer is the aggregate of the following:

(i) issued and fully paid-up ordinary shares (or working fund, in the case of a branch of a foreign insurer);
(ii) share premiums;
(iii) paid-up non-cumulative irredeemable preference shares;
(iv) capital reserves;
(v) retained profits[1];
(vi) the valuation surplus[2] maintained in the insurance funds; and
(vii) 50% of future bonuses[3].

7.4 Capital instruments which qualify as Tier 2 capital include:

(i) cumulative irredeemable preference shares;
(ii) mandatory[4] capital loan stocks and other similar capital instruments;
(iii) irredeemable subordinated debts;

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1 In the event that an insurer has accumulated losses, the losses should be deducted from the capital.

2 Gross of deferred tax, if any.

3 Future bonuses defined as max [zero; the difference between the Par reserves on total benefits and Par reserves on guaranteed benefits only, calculated on the bases described in Paragraph 3.2 of **Appendix VII**]. For the purpose of determining future bonuses, the value of 'Par reserves on guaranteed benefits only' should be zeroised if it is negative.

4 Refers to irredeemable loans stocks or capital instruments which are mandatorily convertible to equity.

(iv) available-for-sale reserves[5];

(v) revaluation reserves for self-occupied properties and other assets;

(vi) general reserves; and

(vii) subordinated term debts.

7.5 Subordinated term debts would, subject to the prior approval of the Bank on a case-to-case basis, include term debt and limited life redeemable preference shares which satisfy the following conditions:

(i) unsecured, subordinated and fully paid-up;

(ii) a minimum original fixed term to maturity of five years;

(iii) early repayment or redemption shall not be made without prior consent of the Bank;

(iv) the instruments should be subjected to straight line amortisation over the last five years of their life[6];

(v) there should be no restrictive covenants; and

(vi) the amount eligible for inclusion shall not exceed 50% of Tier 1 capital. In exceptional cases, this limit may be exceeded with the prior written consent of the Bank.

7.6 An insurer which plans to issue any new capital instruments is required to seek the Bank's approval on the classification of the instruments under the Framework.

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5 In the event that an insurer has fair value losses for available-for-sale instruments, the losses should be deducted from the capital.

6 E.g. a subordinated term debt with original term to maturity of 7 years and remaining term of 2 years, will be recognised as Tier 2 capital only up to 40% (since only 2 out of 5 years remaining) of the issued amount.

8. Deductions from capital

8.1 For the purpose of calculating CAR, the following deductions should be made from the aggregate of Tier 1 and Tier 2 capital to arrive at the TCA:

(i) goodwill and other intangible assets (e.g. capitalised expenditure);

(ii) deferred tax income/(expenses) and deferred tax assets;

(iii) assets pledged to support credit facilities obtained by an insurer or other specific purposes[7];

(iv) investment in subsidiaries; and

(v) all credit facilities granted by an insurer and secured by its own shares.

9. Total capital required

9.1 The 'Total Capital Required' (TCR) is the aggregate of the total capital charges for each insurance fund and the total capital charges for all assets in the shareholders' or working fund, in the case of a branch of a foreign insurer. Further details on the TCR are provided in Part C of the Framework.

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7 Pursuant to Section 53 of the Act, an insurer is allowed to pledge its assets as security or collateral to:

(i) obtain utilities such as electricity, water, telephone, petrol supply and medical facilities;

(ii) secure a mortgage loan where the property is assigned to a financial institution for the purchase of that property; and

(iii) obtain overdraft facilities to meet temporary shortfall in current accounts.

The assets pledged for purpose (ii) above must be sourced from the shareholders' fund. Pledging of assets for purposes other than those mentioned above requires prior approval of the Bank, pursuant to Section 53 of the Act.

PART C CAPITAL REQUIRED TO MITIGATE MAJOR RISKS

10. Total capital required

10.1 The TCR is the higher of the aggregate of capital charges for credit, market, insurance and operational risks faced by an insurer or surrender value capital charges, where applicable. The TCR is determined as follows:

TCR = Max [surrender value capital charges, Σ(credit risk capital charges + market risk capital charges + insurance liability capital charges + operational risk capital charges)]

10.2 The TCR shall be computed for all insurance funds and the shareholders' or working fund. In the case of an investment-linked fund, TCR shall be computed for the non-unit portion of the fund, except for operational risk capital charges, which shall be computed for the entire fund.

11. Capital charges for credit risk

11.1 The credit risk capital charges (CRCC) aim to mitigate risks of losses resulting from asset defaults, related losses of income and the inability or unwillingness of a counterparty to fully meet its contractual financial obligations.

11.2 The formula to compute CRCC is as follows:

$$CRCC = \sum_{all\ i} \left[(\text{exposure to counterparty}_i \ X \ \text{credit risk charge}_i) \right]$$

where 'i' refers to the different exposures to counterparties in the respective funds.

11.3 Details of the CRCC are given in **Appendix I**.

12. Capital charges for market risk

12.1 The market risk capital charges (MRCC) aim to mitigate risks of financial losses arising from:

(i) the reduction in the market value of assets due to exposures to equity, interest rate, property and currency risks;

(ii) non-parallel movements between the value of liabilities and the value of assets backing the liabilities due to interest rate movements (i.e. the interest rate mismatch risk); and

(iii) concentration of exposures to particular counterparties or asset classes as described in paragraph 10.1 of **Appendix II**.

12.2 The formula to compute MRCC is as follows:

$$MRCC = \sum_{all\ i} [(market\ \text{exposures}_i\ X\ market\ risk\ \text{charge}_i)]$$

where 'i' refers to different asset classes in the respective funds.

12.3 The MRCC for interest rate mismatch risks is applicable only for life insurance funds and general insurance funds with discounted liabilities.

12.4 Further details of the MRCC are given in **Appendix II**.

13. Capital charges for general insurance liabilities

13.1 The general insurance liabilities risk capital charges (GCC) aim to address risks of under-estimation of the insurance liabilities and adverse claims experience,

over and above the amount of reserves already provided for at the 75% level of confidence.

13.2 The formula to compute GCC is as follows:

$$GCC = \sum_{all\ i} [(capital\ \ charge\ \ for\ \ claims\ \ liabilities_i] + [capital\ \ charge\ \ for\ \ premium\ \ liabilities_i]$$
$$= \sum_{all\ i} [(value\ \ of\ \ claims\ \ liabilities_i\ \ X\ \ risk\ \ charge_i] + [value\ \ of\ \ unexpired\ \ risk\ \ reserves_i\ \ X\ \ risk\ \ charge_i]$$

where 'i' refers to the different classes of the general insurance business.

13.3 Details of the GCC risk charges are given in **Appendix IV**.

13.4 To arrive at the GCC, the risk charges are applied on the claims liabilities and unexpired risk reserves computed at the 75% level of confidence for each class of business after allowing for diversification.

13.5 A general insurer is required to hold, among others, reserves in respect of premium liabilities, defined as the higher of unexpired risk reserve (URR) or unearned premium reserve (UPR). Where the insurer holds a higher URR compared to UPR, this excess amount cannot be applied to reduce the amount of GCC. Further details on the valuation requirements for general insurance liabilities are given in **Appendix VI**.

13.6 Where the insurer holds the UPR as the value of its premium liabilities, the insurer may use the following formula to recognise a lower capital charge for premium liabilities:

$$Capital\ charge\ for\ premium\ liabilities_i = \text{Max}\,[\,0\,,\ (Value\ of\ unexpired\ risk\ reserves_i \times risk\ charge_i) - (Value\ of\ premium\ liabilities_i - Value\ of\ unexpired\ risk\ reserves_i)\,]$$

where 'i' refers to the different classes of the general insurance business.

14. Capital charges for life insurance liabilities

14.1 The life insurance liabilities risk capital charges (LCC) aim to address the risk of under-estimation of the insurance liabilities and adverse claims experience, over and above the amount of reserves already provided for at the 75% level of confidence.

14.2 The formula to compute LCC, other than for life insurance policies which are covered under paragraph 14.5 below, is defined as follows:

$$\boldsymbol{LCC = (V^* - V - PRAD)}$$

where

- 'V*' is the adjusted value of life insurance liabilities computed using the parameters stipulated in **Appendix V**;
- 'V' is the best estimate value of life insurance liabilities; and
- 'PRAD' is the Provision of Risk Margin for Adverse Deviation as defined in **Appendix VII**.

For participating business, V*, V and PRAD shall refer to the liabilities on guaranteed benefits only, discounted at the risk-free discount rate.

14.3 The stress factors for major risks inherent in life insurance liabilities are provided in **Appendix V**. Where the valuation assumptions are not separated according to the categories as prescribed in **Appendix V**, the stress factors to derive V* in respect of the combined risk rates shall be the highest stress factors of the constituent risks as prescribed in the same Appendix.

14.4 For products whose liabilities are affected by risks other than those listed in **Appendix V** (e.g. products with investment guarantees that would have impact on the liabilities of the insurers in adverse market or credit risk events), the additional risks above the 75% confidence level shall be quantified and included in the insurer's determination of its Individual Target Capital Levels as per Part F of the Framework.

14.5 For a short-term medical and health insurance standalone policy or rider, as well as short-term personal accident plan for which premium and claims liabilities have been reserved, the applicable risk charges shall correspond to that as required for general insurance liabilities in **Appendix IV**.

15. Capital charge for operational risk

15.1 The operational risk capital charges (ORCC) aim to mitigate the risk of losses arising from inadequate or failed internal processes, people and systems.

15.2 The formula to compute ORCC is as follows:

ORCC = 1% of total assets

15.3 The above method serves as reasonable proxy to address operational risk for the time being in the absence of more established and internationally accepted methods.

16. Surrender value capital charges

16.1 The surrender value capital charges (SVCC) aim to address lapse risk in excess of the levels assumed in the calculation of reserves and risk margin, for life insurance only.

16.2 SVCC is defined as the aggregate of –

max [zero; aggregate surrender value of the business in force in respect of policies in the insurance fund less the aggregate policy reserves of the insurance fund]

for each of the participating and non-participating life insurance funds. In the case of investment-linked business, the SVCC shall apply if there are guaranteed surrender values that exceed the sum of the unit fund values and non-unit reserves, in aggregate, at the valuation date.

PART D VALUATION OF ASSETS AND LIABILITIES

17. Overview

17.1 Insurers shall value the assets and liabilities in accordance with the applicable approved accounting standards issued by the Malaysian Accounting Standards Board (MASB), as modified by the Bank under this Framework or other relevant guidelines or circulars issued by the Bank pursuant to Section 90 of the Act.

18. Valuation of assets

18.1 Insurers' financial assets shall be valued in accordance with the requirements of the Guidelines on Financial Reporting for Insurers and Revised Guidelines on Derivatives for Insurers.

19. Valuation of liabilities

(I) Financial Liabilities

19.1 Insurers should measure all financial liabilities in accordance with the requirements specified in the Guidelines on Financial Reporting for Insurers and the Revised Guidelines on Derivatives for Insurers.

(II) Insurance Liabilities

19.2 The valuation of life and general insurance liabilities will be subjected to minimum requirements as specified in paragraphs 19.5 to 19.8, with the aim of providing for reserves at a specified level of adequacy with explicit prudential margins.

19.3 The valuation bases for life and general insurance liabilities are prescribed based on the principles which include, among others:

(i) consistency with the principles of fair valuation, where possible and appropriate, or otherwise consistent with the principle of prudence; and

(ii) giving due regard to the regulatory duty of the insurer to treat policyholders fairly.

19.4 For the valuation of general insurance liabilities, non-participating life insurance liabilities, participating life insurance liabilities on guaranteed benefits only, and the non-unit investment-linked liabilities, the prescribed valuation bases aim to secure an overall level of sufficiency of policy reserves at the 75% confidence level. To secure this level of adequacy, insurers are required to calculate the best estimate value of their insurance liabilities and apply a 'Provision of Risk Margin for Adverse Deviation' (PRAD).

19.5 The risks for general insurance liabilities relate to that associated with the uncertainty of outstanding claims and unexpired risks (with respect to unexpired premiums), resulting from the risks of adverse claims experience and under-estimation of premiums.

19.6 All insurers underwriting general insurance business must value their general insurance liabilities in the manner specified in **Appendix VI** - 'Valuation Basis for General Insurance Liabilities'.

19.7 The risks for life insurance liabilities relate to that associated with the uncertainty in future claims contingent events, under-estimation of premiums and adverse claims contingent events.

19.8 All insurers underwriting life insurance business must value their life insurance liabilities in the manner specified in **Appendix VII** - 'Valuation Basis for Life Insurance Liabilities'.

20. [Deleted]

21. [Deleted]

PART E INVESTMENT OF INSURANCE FUNDS

22. Investment and risk management policy

22.1 Greater investment flexibility is accorded to insurers under the Framework to allow better management of assets appropriate with the nature and profile of insurers' liabilities.

22.2 The oversight of and accountability for, the investment of insurance funds rests ultimately with the board of directors. To ensure proper investment of insurance funds, insurers must put in place an investment and risk management policy that is in line with the risk appetite set by the board of directors for the insurer. The investment and risk management policy should be approved and reviewed regularly by the board of directors and cover overall investment strategy and proper risk management systems, including monitoring and control mechanisms.

22.3 The policy on overall investment strategy should cover, at least, the following elements:

(i) the investment objectives, both at company and fund-specific levels;
(ii) the risk and liability profile of the insurer;
(iii) the strategic asset allocation, i.e. the long-term asset mix for the main investment categories, and their respective limits;
(iv) the extent to which the holding of certain types of assets is restricted or disallowed, e.g. illiquid or highly volatile assets; and
(v) an overall policy on the usage of derivatives and structured products.

22.4 The risk management systems must cover the risks associated with investment activities that may affect the coverage of insurance liabilities and capital positions. The main risks include market, credit and liquidity risks.

22.5 As part of good risk management practices and to ensure proper monitoring and control of the investments, insurers are also required:

(i) to establish adequate internal controls to ensure that assets are managed in accordance with approved investment policies, and in compliance with legal, accounting and relevant risk management requirements. These controls should ensure that investment procedures are documented and subject to effective oversight. There should be in place appropriate segregation of responsibilities for measuring, monitoring, settling and controlling asset transactions, from the front office functions;

(ii) to have in place rigorous audit procedures that include full coverage of the investment activities to ensure timely identification of internal control weaknesses and operating system deficiencies. If the audit is performed internally, it should be independent of the function being reviewed;

(iii) to install effective procedures for monitoring and managing the asset-liability position to ensure that the investment activities and asset positions are appropriate in relation to the liability and risk profiles;

(iv) to put in place suitable plans to mitigate the effects arising from deteriorating market conditions;

(v) to undertake regular stress testing for a range of market scenarios and changing investment and operating conditions in order to assess the appropriateness of asset allocation limits; and

(vi) to ensure the key staff involved in investment activities have the appropriate levels of skills, experience, expertise and integrity.

22.6 Senior Management is responsible for setting, managing and reviewing the investment policies of the insurer. In the case of a participating life fund, Senior Management should ensure that the investment policy is consistent with the bonus and/or dividend distribution policy of the insurer. Senior Management is also responsible for ensuring the proper implementation of investment policies approved by the board of directors, as well as timely and regular reporting to the board of directors of the insurer's investment activities.

22.7 The Bank may impose requirements on an individual insurer to invest in a specified manner, or restrict or prohibit an insurer from investing in certain asset classes or individual asset to safeguard insurance funds. Such requirements, restrictions or prohibitions will form part of supervisory actions as a result of the Bank's assessment of an insurer's risk profile and investment risk management function.

PART F INDIVIDUAL AND SUPERVISORY TARGET CAPITAL LEVELS

23. Individual Target Capital Level

23.1 The TCR prescribed under this Framework assumes an average industry level of risk within each business activity and that risks arising from these activities are mitigated by standard risk management practices. In practice, the actual risk profile and the quality of risk management measures adopted by each insurer to mitigate its risk exposure may differ significantly from that assumed under the Framework.

23.2 Each insurer is therefore, expected to set an Individual Target Capital Level that better reflects its own risk profile and risk management practices. The Bank expects the Individual Target Capital Level to include additional capacity to absorb unexpected losses beyond those that are covered by the Framework. In general, the Individual Target Capital Level should be higher for insurers with higher risk profiles or weaker risk management practices. The assessment of an appropriate Individual Target Capital Level should be performed by the insurer by conducting appropriate stress and scenario tests.

23.3 The board of directors is primarily responsible for setting the Individual Target Capital Level and ensuring that the insurer has in place an appropriate capital management plan that takes into account its strategic business direction and the changing business environment. The Bank also expects each insurer to establish adequate processes to monitor and ensure the maintenance at all times of an appropriate level of capital which is commensurate with its risk profile.

23.4 Further guidance on the overall process by which an insurer ensures adequate capital to meet its capital requirements on an ongoing basis, including the setting

of Individual Target Capital Level, is stipulated in the Guidelines on Internal Capital Adequacy Assessment Process (ICAAP) for Insurers.

24. Supervisory target under the Risk-Based Supervisory Framework

24.1 The Bank's supervisory approach of pre-emptive intervention means that supervisory action will be taken during the early stages of financial difficulties faced by an insurer. To meet this objective, the Bank has set a Supervisory Target Capital Level of 130%, below which supervisory actions of increasing intensity will be taken to resolve the financial position of an insurer.

24.2 The Supervisory Target Capital Level should be viewed as a benchmark against which an insurer should establish its own higher Individual Target Capital Level. The Bank will assess[8] whether the Individual Target Capital Level is appropriate for the insurer's risk profile, and on a case-by-case basis, may require an adjustment to the level of the insurer's Individual Target Capital. As a matter of policy, the Bank does not expect any insurer to set its Individual Target Capital Level below the Supervisory Target Capital Level.

24.3 When an insurer's CAR breaches its own Individual Target Capital Level but remains above the Supervisory Target Capital Level, the Bank will assess the circumstances and the insurer's remedial plans to restore CAR above its Individual Target Capital Level, before deciding on the level of supervisory intervention required. Continued deterioration of an insurer's CAR below its Individual Target Capital Level will attract increasing levels of supervisory attention. An insurer which CAR breaches the Supervisory Target Capital Level

8 Under the Risk-Based Supervisory Framework, the Bank will evaluate the inherent risks associated with an insurer's significant activities, and the quality of risk management applied to mitigate those risks. This enables the Bank to assess the insurer's overall net risk with respect to its current level of capital and earnings.

of 130% will face stricter supervisory action, which may include business restrictions and/or restructuring measures.

25. Restrictions on payment of dividends

25.1 All dividend payments are subject to the prior approval of the Bank.

25.2 Before submitting an application for payment of dividends, an insurer must have assessed that its CAR:

(i) is not below its Individual Target Capital Level; or

(ii) will not fall below its Individual Target Capital Level as a result of the payment of dividends.

PART G RELEVANT ISSUES

26. Capital adequacy position

26.1 Insurers are required to submit to the Bank their CAR computations based on the financial year end positions, within 90 days after the end of each financial year end using the reporting forms specified by the Bank. The financial year end CAR positions must be certified by the insurer's external auditor and the chief executive officer (CEO).

26.2 In addition, insurers are required to submit the quarterly CAR computations to the Bank within 21 days after the end of each quarter. The quarterly CAR need not be certified by the insurer's external auditor. However, the CEO of the insurer should certify that the reported figures represent the actual capital adequacy position of the insurer.

26.3 The Bank reserves the right to require insurers with weak capital adequacy positions to compute and report their CAR to the Bank on a more frequent basis.

26.4 The capital adequacy position of an insurer at any particular point of time shall be the lower of the latest quarterly CAR and the audited CAR in the preceding financial year.

27. Minimum paid-up capital

27.1 The amount of minimum paid up capital/excess of assets over liabilities required for an insurer to operate insurance business in Malaysia pursuant to section 18 of the Act remains unchanged.

PART H APPENDICES

Appendix I Credit Risk Capital Charges

1. Overview

1.1 Credit risks relate to losses resulting from asset defaults and related loss of income due to the inability or unwillingness of a counterparty to fully meet its contractual financial obligations. The risk charges for exposures to various counterparties and/or debt obligations and asset types are provided in this Appendix.

2. Debt obligations

2.1 For the purpose of applying credit risk charges, exposures to debt obligations shall include positions in debt securities, debentures, commercial papers, short term notes, asset-backed securities and loans[9]. Convertible securities, i.e. debt issues or preference shares that can be converted into ordinary shares of the issuer, will be classified under this category if the instruments trade and behave like debt securities. **Table 1** provides the applicable credit risk charges for counterparties and debt obligations.

Table 1: Risk charges for counterparties and debt obligations

Counterparty or debt obligations		Risk charge
(a)	the Federal Government of Malaysia, Bank Negara Malaysia[10], the federal government or the central bank of a G10 country[11] and recognised multilateral development banks (MDBs)[12]	0%

9 Including policy loans, automatic premium loans and staff loans.

10 Including special purpose vehicles established by Bank Negara Malaysia to facilitate the issuance of securities (such as Bank Negara Malaysia Sukuk Ijarah and BNMi-Murabahah issued through BNM Sukuk Berhad).

11 G10 countries are Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, the United Kingdom and the United States of America.

12 Recognised MDBs are those which are in the World Bank Group which comprises the International Bank for Reconstruction and Development (IBRD)

(b)	Cagamas in respect of its obligations or that issued by its subsidiaries prior to 4 September 2004, Cagamas Covered Bonds and Covered Sukuk Wakalah	0.8%
(c)	State government of Malaysia and the federal government or the central bank of non-G10 countries	1.6%
(d)	Corporations and other organisations with the following rating categories (further details in **Appendix X**):	
	(i) One	1.6%
	(ii) Two	2.8%
	(iii) Three	4%
	(iv) Four	6%
	(v) Five	12%
(e)	Debt facilities[13] with original maturity of 1 year or less and with the following rating categories (further details in **Appendix X**):	
	(i) One	1.6%
	(ii) Two	4%
	(iii) Three	8%
	(iv) Four	12%
(f)	Individual person :	
	(i) staff of the insurer[14]	4%
	(ii) other individuals (except for policy loans)	12%
(g)	Policy loans[15]	0%

2.2 An insurer must use the latest rating accorded by either a recognised rating agency established in Malaysia or by an internationally recognised rating agency. The following rating principles shall apply:

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and the International Finance Corporation (IFC), the Asian Development Bank (ADB), the African Development Bank (AfDB), the European Bank for Reconstruction and Development (EBRD), the Inter-American Development Bank (IADB), The European Investment Bank (EIB), the European Investment Fund (EIF), the Nordic Investment Bank (NIB), the Caribbean Development Bank (CDB), the Islamic Development Bank (IDB) and the Council of Europe Development Bank (CEDB). Exposures to other MDBs are treated based on the corporation's rating outlined in this table.

13 Ratings are facility-specific and can only be used to determine the capital charge for exposure to the specific facility.

14 Loans given to staff under the employment service contracts.

15 'Policy loans' means a credit facility granted by an insurer underwriting life insurance business to its policyholders and the amount of the facility does not exceed the surrender value of the life policy of the policyholders on the date of granting the credit facilities.

(i) An insurer shall use the issue-specific rating where available. Where an insurer invests in a debt obligation which does not have an issue-specific rating, the following principles shall apply:

(a) In the event where the insurer's exposure is to a counterparty which does not have its own issuer rating, but has a rating on other obligations such as a debt security to which the insurer is not exposed, the insurer can use that debt security rating in determining the appropriate risk charge for its exposure to the counterparty. However, this is subject to the condition that the insurer's unrated exposure ranks pari passu or senior in all respects to the debt security which has a rating and the debt security rating has not taken into account any effects of collateral/guarantee arrangements. Otherwise, the risk charge for unrated obligations should apply to the unrated exposure; and

(b) Where a counterparty has its own issuer rating, this assessment typically applies to senior unsecured exposures to that counterparty. Thus, only senior exposures to that counterparty will be able to utilise this rating. Other exposures will be treated as unrated.

(ii) If a debt obligation is rated by more than one rating agency, the risk charge should be based on the following principles:

(a) Where two ratings are available, the lower rating is to be applied; or

(b) Where three or more ratings are available, the lower of the two highest ratings will be used.

2.3 Investments in innovative tier 1 capital instrument[16] issued by licensed institutions under the Banking and Financial Institutions Act 1989 (BAFIA) are subjected to

16 This refers to instruments which do not fulfil the characteristics of equity but qualify as tier 1 capital instruments under the capital adequacy framework for banking institutions.

the same credit risk charge[17] that is applicable to an exposure to a similarly rated corporate debt obligations.

2.4 For debt obligations that are denominated in foreign currency or issued outside Malaysia, insurers should consider the appropriateness of the rating in reflecting transferability and convertibility risks. Where such risks are not adequately reflected in the rating, insurers should provide for this in the Individual Target Capital Levels set.

3. Credit risk mitigation using collateral and guarantees

3.1 Insurers may recognise a lower credit risk capital charge for debt obligations if the insurer holds certain types of credit risk mitigants (CRM), namely, eligible collateral against the debt obligations, or if the obligations are guaranteed by recognised guarantors.

3.2 No CRM can be recognised to reduce the credit risk capital charge if the rating assigned to the debt obligation to which the risk charge corresponds has already reflected the CRM.

3.3 In order to achieve capital relief for the use of CRM, the following minimum conditions must be fulfilled:

(i) All documentation used in the transactions must be binding on all parties and legally enforceable in all relevant jurisdictions;

(ii) Sufficient assurance from legal counsel has been obtained with respect to the legal enforceability of the documentation; and

17 In addition, investments in such instruments are also subject to the market risk charge treatment, described in **Appendix II**.

(iii) Periodic reviews are undertaken to confirm the ongoing enforceability of the documentation.

Only collateral and/or guarantees that are actually posted and/or provided under a legally enforceable agreement are eligible as CRM. A commitment to provide collateral/guarantee is not recognised as a CRM until the commitment to do so is actually fulfilled.

3.4 While the use of a CRM reduces or transfers credit risk, it may add to residual risks in the form of legal, operational and/or liquidity risk. Therefore, it is imperative that insurers employ robust procedures and processes to control these risks. Insurers must be prepared and able to demonstrate to the Bank that adequate risk management policies and procedures are in place to control these risks arising from the use of CRMs.

(I) Collateral

3.5 In addition to the minimum requirements specified in paragraph 3.3, the legal mechanism by which a collateral is pledged or transferred must adequately provide for the right of the insurers to liquidate or take legal possession of the collateral in a timely manner in the event of default, insolvency or bankruptcy of the counterparty. Furthermore, insurers must take all steps necessary to fulfil those requirements under the law applicable to the insurer's interest in the collateral for obtaining and maintaining an enforceable security interest.

3.6 For a collateral to be eligible, it must be regularly marked-to-market and should be pledged for the life of the debt obligation exposure. In order for the collateral to provide effective cover, the credit quality of the counterparty and the value of the collateral must not have a material positive correlation. Collateral issued by the borrower or a party related to the borrower cannot be classified as eligible collateral as both would generally exhibit a material positive correlation.

3.7 Insurers must have in place clear and robust procedures for the timely liquidation of collateral. This includes procedures to ensure that any legal conditions required for declaring the default of the counterparty and liquidating the collateral are duly observed.

3.8 Where collateral is held by a custodian, insurers must take reasonable steps to ensure good custody of that collateral and take reasonable steps to ensure that the custodian segregates the collateral from its own assets.

3.9 The value of the collateral backing the debt obligations shall be determined:

(i) at its market value; or

(ii) where, for any reason, it is not possible to determine its market value, the value approved by the Bank on an application by the insurer, which should set out the value arrived at by the insurer and the basis for it.

3.10 The amount of debt obligation exposure to which the credit risk charge is applied may be adjusted to reflect the "eligible collateral" backing the exposure, determined as follows:

(i) the 'adjusted debt outstanding' shall be:

$$E^* = E - [C \times (1 - H_c - H_{fx})]$$

where,

(a) E* is the adjusted debt outstanding

(b) E is the value of the debt outstanding before adjustment

(c) C is the market value of the collateral

(d) H_c and H_{fx} are multiple adjustments for the collateral, expressed as a ratio of market value of the collateral

(e) E* is subject to a minimum of 15% of E;

(ii) the multiple adjustment ('H_C') broadly reflects the riskiness of the collateral received,; and

(iii) 'H_{fx}' applies if the collateral is denominated in a currency that is different from that of the debt. The currency mismatch charge is 8%.

3.11 The values of the multiple adjustment ('H_C') are given below.

Table 2: Multiple adjustments for eligible collateral

Eligible Collateral		Residual term to maturity (X)	H_c
(a)	Cash (including certificate of deposits or comparable instruments) and bank deposits[18] with any financial institution licensed under the Banking and Financial Institutions Act 1989, the Islamic Banking Act 1983 or prescribed under the Development Financial Institutions Act 2002		0%
(b)	Securities issued or fully guaranteed by the Federal Government of Malaysia, Bank Negara Malaysia[19] or the federal government or the central bank of a G10 country	X ≤ 1 year	0.5%
		1 < X ≤ 5 years	2%
		X > 5 years	4%
(c)	Securities issued or guaranteed by recognised MDBs	X ≤ 1 year	1.5%
		1 < X ≤ 5 years	3.0%
		X > 5 years	5.0%
(d)	Securities with ratings of category two or better[20], issued by a corporation	X ≤ 1 year	3.5%
		1 < X ≤ 5 years	5.0%
		X > 5 years	7.0%
(e)	Shares listed on the Main Market of Bursa Malaysia or other main index of exchanges in a G10 country		20%
(f)	Shares listed on other local exchanges		30%

3.12 Where the collateral is a basket of assets, the multiple adjustments to be applied to such baskets is the highest multiple adjustment that would be applicable to any of the collaterals in the basket.

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18 Structured deposits and Specific Investment Account (SIA) would not qualify as eligible collateral.

19 Including special purpose vehicles established by Bank Negara Malaysia to facilitate the issuance of securities (such as Bank Negara Malaysia Sukuk Ijarah and BNMi-Murabahah issued through BNM Sukuk Berhad).

20 Under paragraph 1 of **Appendix X**.

(II) Guarantees

3.13 The capital risk charges applicable to debt obligations may be reduced to reflect a guarantee backing the debt obligation that is provided by a recognised guarantor if

(i) the guarantee represents a direct claim on the guarantor and is explicitly referenced to specific debt exposure or pool of exposures, so that the extent of the cover is clearly defined and cannot be disputed;

(ii) the guarantee is irrevocable except where the guaranteed party has not made the payment due to the guarantor. The guarantor must also not have the right to unilaterally cancel the protection cover or increase the effective cost of the cover as a result of the deteriorating credit quality in the guaranteed exposure;

(iii) the guarantee is unconditional such that there is no clause in the guarantee contract that could prevent the guarantor from being obliged to pay out in a timely manner, in the event that the original counterparty fails to make the payment(s) due;

(iv) the guarantee covers all types of payments the underlying debt obligor is expected to make under the documentation governing the transaction, such as notional amount, margin payment etc;

(v) the guarantee period covers the full term of the debt obligations; and

(vi) upon the default/non-payment of the counterparty, the insurer may in a timely manner pursue the guarantor for any monies outstanding under the documentation governing the transaction. The guarantor may make one lump sum payment of all monies under such documentation to the insurer or, the guarantor may assume the future payment obligations of the counterparty covered by the guarantee.

3.14 In calculating the capital charges, the portion of a debt obligation which is guaranteed would be subjected to the risk charge of the guarantor[21], while the uncovered portion is subjected to the risk charge of the counterparty to the debt obligation.

3.15 The recognised guarantors are:

(i) the Federal Government of Malaysia, Bank Negara Malaysia[22], the federal government or the central bank of a G10 country or recognised MDBs;

(ii) other rated entities (including financial guarantee insurer) which is rated at least under category two[23]; and

(iii) an institution licensed under the Banking and Financial Institutions Act 1989, the Islamic Banking Act 1983 or prescribed under the Development Financial Institutions Act 2002.

In all circumstances, the guarantors must have a counterparty rating which is at least higher than that of the debt obligation or the obligor.

4. Debt obligations secured by immovable properties

4.1 An insurer shall not accept immovable property as a security for debt facility unless it is a freehold property or leasehold property with at least 21 years of unexpired period of lease.

4.2 An insurer shall not grant a debt facility for the purchase of immovable property in excess of 90% of the market value of the immovable property on the date of granting of the debt facility.

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21 E.g. a debt security which is fully guaranteed for its entire term by the Federal Government of Malaysia shall carry a credit counterparty risk charge of 0%.

22 Including special purpose vehicles established by Bank Negara Malaysia to facilitate the issuance of securities (such as Bank Negara Malaysia Sukuk Ijarah and BNMi-Murabahah issued through BNM Sukuk Berhad).

23 Under paragraph 1 of **Appendix X**

4.3 An insurer granting a debt facility which is secured by rights and interests in an immovable property, where applicable:

(i) shall enter into an agreement in writing for the debt facility with the borrower;

(ii) shall require the borrower to execute a deed of assignment assigning all his rights and interests in the immoveable property to itself and to register the deed of assignment under the National Land Code, Land Ordinance of Sabah or Land Code of Sarawak;

(iii) shall require the borrower to execute a power of attorney in its favour, authorising it to execute a charge in its favour on the immovable property which is the subject of the sale and purchase agreement with the borrower;

(iv) shall ensure that the sale and purchase agreement does not prohibit the lodgement of a private caveat by the insurer or, being the financier for the purchase of the immovable property;

(v) shall obtain a confirmation from the developer or registered proprietor of the immovable property that there is no prior subsisting assignment of the rights and interests in the immovable property which would vitiate the deed of assignment; and

(vi) where the immovable property is subject to a restriction in interest that it cannot be transferred, assigned, charged, or otherwise dealt with, without the consent of the State Authority, shall ensure that the consent of the State Authority has been obtained for the sale or assignment to the person in whose name the immovable property is to be registered, and for the insurer to acquire the immovable property in the event of any default in the repayment of the debt facility.

4.4 An insurer shall only accept immovable property situated in Malaysia as security for a debt facility granted in Malaysia.

4.5 Debt obligations secured by immovable properties in the manner specified in this section shall be subjected to the following risk charges:

Table 3: Risk charges for debt obligations secured by properties

Types of properties	Risk charges
(a) residential properties	
- LTV< 80%	2.8%
- 80% ≤ LTV ≤ 90%	4%
(b) other types of properties	
- LTV< 80%	5.6%
- 80%≤ LTV ≤ 90%	8%
(c) Abandoned properties	12%

Note: LTV= Loan-to-Value ratio

4.6 A debt obligation that does not meet the requirements under this part shall be subject to the counterparty risk charges in **Table 1** of this Appendix.

5. Investment in structured products

5.1 A structured product usually refers to an investment which derives its value by reference to the price or value of an underlying reference[24]. Such products are exposed to counterparty credit risk charges, where the risk charge is determined based on the credit rating of the product offeror. The risk charge is applicable to the entire marked-to-market value of the investments.

5.2 In addition, separate market risk charges are applicable to the marked-to-market value of the structured investments, depending on whether the product is capital guaranteed or otherwise. Please refer to paragraphs 9.1 to 9.7 of **Appendix II** for the determination of the market risk capital charge.

24 "Underlying reference" means any security, index, currency, commodity or other assets or reference, or combination of such assets or reference.

6. Other assets

6.1 The credit risk charges for other assets not specified above are set out in **Table 4**.

Table 4: Risk charges for other assets

Types of exposure		Risk charges
(a)	Cash (including certificate of deposits or comparable instruments) in hand and bank deposits[25] with financial institutions licensed under the Banking and Financial Institutions Act 1989, the Islamic Banking Act 1983 or prescribed under the Development Financial Institutions Act 2002	0%
(b)	Deposits with other banking institutions with the following ratings categories[26] (further details in **Appendix X**) :	
	(i) One	1.6%
	(ii) Two	2.8%
	(iii) Three	4%
	(iv) Four	6%
	(v) Five	12%
(c)	Credit exposures to (re)insurers[27] licensed under the Act and qualifying reinsurers	1.6%
(d)	Credit exposures to (re)insurers[28] other than those licensed under the Act and qualifying (re)insurers, with the following rating categories[28] (further details in **Appendix X**):	
	(i) One	1.6%
	(ii) Two	2.8%
	(iii) Three	4%
	(iv) Four	6%
	(v) Five	12%
(e)	Outstanding premiums, agent balances and other receivables due from:	
	(i) other licensees under the Act or agents	4%

25 Structured deposits and Specific Investment Account (SIA) would not qualify as eligible collateral

26 In the absence of issue-specific ratings, the issuer local rating may be used in determining the credit risk charge.

27 Credit exposures to (re)insurers refers to -

(i) Amount due from reinsurers (including amount due in respect of premiums outstanding, claims recoverable, commissions);

(ii) Reinsurance recoveries in respect of claims incurred; and

(iii) Reinsurance deposits in respect of reinsurance accepted.

28 Rating principles in paragraph 2.2 above shall apply for the purpose of determining the rating of the (re)insurers.

	(ii) others	6%
(f)	Other assets[29]	8%

6.2 Credit exposures to (re)insurers under items (c) and (d) in **Table 4** includes reinsurance recoveries in respect of claims incurred (reported under claims liabilities) as well as claims paid (reported under other assets).

6.3 A qualifying reinsurer as mentioned in **Table 4** above refers to a (re)insurer which is licensed under the Labuan Financial Services and Securities Act 2010[30] and satisfies the following conditions:

(a) the reinsurer carries a financial strength rating of category three or better[31]; or

(b) (i) the reinsurer has obtained an explicit and irrevocable guarantee[32] from its parent company (or head office[33]) to fully support the reinsurer in the event of financial difficulties; and

(ii) its parent company (or head office) is licensed under the Act or carries a financial strength rating of category three or better[32]. For the purpose of meeting the rating requirement, the rating of subordinated debt issued by the parent company (or head office) with rating of category three or better[32], may be accepted.

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29 Including other property, plant and equipment, except for those which are not exposed to counterparty risk (e.g. self-occupied properties).

30 Administered by the Labuan Financial Services Authority.

31 Under paragraph 1 of **Appendix X**.

32 The guarantee should at least:

(i) Cover all reinsurance arrangements between the reinsurer and any Malaysian entities licensed under the Insurance Act 1996;

(ii) Cover the amount of the reinsurer's liabilities to Malaysian entities arising from the reinsurance arrangements referred to in (i) above in its entirety (including reinsurance recoveries or other liabilities as agreed upon in the reinsurance transactions);

(iii) Be in place for the entire duration the reinsurer is exposed to the risk of the arrangements; and

(iv) Be irrevocable, subject to the validity of the reinsurance claims, and the reinsurer shall not unilaterally cancel the guarantee under any circumstances, as long as the arrangement in (i) above still exposes the reinsurer to the risk of claims.

33 For branches of reinsurers, the head office shall provide an irrevocable and explicit undertaking to immediately transfer funds in the event (or expected) depletion of the working capital or in the event of a large loss being intimated.

6.4 The ratings of the (re)insurers and banking institutions other than those licensed under the Banking and Financial Institutions Act 1989, the Islamic Banking Act 1983 or prescribed under the Development Financial Institutions Act 2002, (other banking institutions) should be referred to in **Appendix X** for the purpose of determining the insurer's exposure to the reinsurer(s) or other banking institutions and the corresponding credit risk charges. The rating principles in paragraph 2.2 shall apply as appropriate.

Appendix II Market Risk Capital Charges

1. Overview

1.1 The market risk capital charges (MRCC) aim to mitigate risks of financial losses arising from:

(i) the reduction in the market value of assets due to exposures to equity, interest rate, property, currency risks;

(ii) non-parallel movements between the value of liabilities and the value of assets backing the liabilities due to interest rate movements (i.e. the interest rate mismatch risk); and

(iii) concentration of exposures to particular counterparties or asset classes.

1.2 The risk charges for exposures to various asset types and concentrations are provided in this Appendix.

2. Equity risks

2.1 Equity risks arise from exposures to equity instruments, which include ordinary shares, warrants, depository receipts, transferable subscription rights or similar instruments that exhibit market behaviour similar to equities. Convertible securities, e.g. debt securities or preference shares that can be converted into ordinary shares of the issuer, will be classified as shares if they trade and behave like shares. Equity risks arising from exposures to derivatives such as futures, swaps and options on individual shares or stock indices are also included. However, an investment in the shares of unlisted single-purpose property holding companies is excluded (see section 3 below).

2.2 Exposures to equity instruments exclude investments in innovative Tier 1 capital instruments issued by licensed banking institutions.

2.3 The applicable risk charges for equity exposures are as provided in **Table 1**.

Table 1: Risk charges for equity exposures

Equity Instruments		Risk charges
(a)	listed on the Main Market of Bursa Malaysia or listed on the primary board of recognised stock exchanges in a G10 country	20%
(b)	listed on recognised stock exchanges other than those mentioned in (a)	30%
(c)	FTSE Bursa Malaysia (FBM) KLCI, FBM Top-100 Index, FBM Hijrah Shariah Index or the indicative index of the recognised stock exchanges in a G10 country	16%
(d)	FBM Mid-70 Index or other stock market indices	25%
(e)	unlisted or private equity (including venture capital)	35%

2.4 A direct position in equity which is matched by opposite positions in equity derivatives, and which meet the requirements in the Revised Guidelines on Derivatives for Insurer, may be fully offset and only the absolute net position subject to the equity risk charge. For example, a future in a given equity may be offset against a direct position in the same equity.

2.5 Equity derivatives positions that can be applied to reduce an insurers' equity risk exposure shall be determined based on the following:

(i) Futures and forward contracts relating to individual equities are reported at current market prices;

(ii) Futures relating to equity indices are reported either as the current index value times the monetary value of one index point set by the futures exchange or market value of the notional underlying equity portfolio;

(iii) Equity and stock index options are treated based on the delta equivalent approach described in paragraphs 6.1 to 6.5 below; and

(iv) For a short position in equity derivatives, the absolute value of the short position is to be converted into positions in the relevant underlying, to which the equity risk charge will apply.

2.6 A simplified illustration on the application of the equity risk capital charge for an insurer with derivatives positions is provided in **Appendix II(a)**.

3. Property risks

3.1 Property risks arise from exposures to immovable properties both for investment and self-occupied purposes.

3.2 An investment in shares of unlisted single-purpose property holding companies (entity), is deemed as an investment in property and therefore subject to the property risk charge, if the investment meets the following criteria:

(i) the entity wholly owns the property, including all rights, interests and benefits related to the ownership of the property; and

(ii) The entity should not have significant liabilities other than in relation to loan facilities taken for the purchase of property.

Otherwise, the investment is deemed as an investment in shares.

3.3 The applicable risk charges for exposures to immovable properties are provided in **Table 2** below:

Table 2: Risk charges for investment in immovable property

Property investments	Risk charges
(a) self-occupied properties	8%
(b) other property and property-related investments	16%

4. Interest rate risks

4.1 Interest rate risks arise from exposures to interest rate related assets[34] and liabilities, including debt securities, commercial papers, debentures, notes, negotiable instruments of deposits, mortgages, loans[35], interest rate derivatives and other instruments that share similar characteristics such as non-convertible preference shares. Convertibles bonds, i.e. debt issues or preference shares that are convertible into ordinary shares of the issuer, will be treated as debt securities if the instruments trade and behave like debt securities. Interest rate risk charges for life and general insurance fund shall be computed in accordance with paragraphs 4.4 to 4.13.

4.2 Interest rate risk exposures can be reduced by interest rate derivative positions, such as futures, forwards and options. Interest rate derivatives should be converted into exposures in the relevant underlying assets and subjected to appropriate interest rate risk charge calculations. To determine the capital charge, the amount reported should be the market value of the principal amount of the underlying or of the notional underlying. In the case of options, the delta-equivalent value of the option positions is used.

4.3 This paragraph outlines the treatment of interest rate derivative exposures by product class:

(i) Futures and Forward contracts, including Forward Rate Agreements (FRAs)

(a) These instruments are treated as a combination of a long and short position in a notional zero-coupon government security. The maturity period of futures or FRAs will be the period until delivery or exercise

34 Including cash and deposits placement.

35 Including policy loans, automatic premium loans and staff loans, as referred to in footnote 10 in **Appendix I**.

of the contract, plus, where applicable, the life of the underlying instrument. For example, a long position in a June three month interest rate future (taken in April) is to be regarded as a long position in a government security with a maturity of five months and a short position in a government security with a maturity of two months.

(b) In the case of a future or forward on a corporate bond or corporate bond index, positions will be included at the market value of the notional underlying/ portfolio of securities.

(c) In the case of foreign currency forward contracts with an interest rate element, either a long or short position in the market value of each underlying currency leg would be recorded in the respective 'maturity bucket' capturing the relevant interest rate risk.

(ii) Swaps

(a) Swaps will be treated as two underlying positions in zero coupon government securities with relevant maturities. For example, a plain vanilla interest rate vanilla swap under which an insurer pays floating and receives fixed will be treated as a long position in a fixed rate instrument of maturity equivalent to the residual life of the swap and a short position in a floating-rate instrument of maturity equivalent to the period until the next interest fixing.

(b) Where one of the swap legs involves payment relating to some other reference price, for example a stock index, the leg should be slotted into the equity component of market risk charge calculation. Swaps are treated as two notional positions. For example, an equity swap in which the insurer receives an amount based on the change in value of one particular equity or stock index and pays a different index will be treated as a long position in the former and a short position in the latter.

(iii) Options

(a) For options, the delta-weighted option position will be slotted into the respective 'maturity band' according to its underlying together with other interest rate related instruments. Paragraphs 6.1 to 6.5 below further explain the capital treatment of option positions.

(I) Computation of interest rate risk charges for life insurance funds and general insurance funds with discounting of liabilities[36]

4.4 The capital charge to address interest rate risks are reduced to the extent that the weighted average duration of the exposures in interest rate related assets match the weighted average duration of the insurance liabilities

4.5 For each life insurance fund, the values of all interest rate related exposures (including interest rate derivatives exposures) and the guaranteed insurance liabilities (i.e. for a non-participating fund and the guaranteed benefits in a participating fund) shall be computed as follows:

(i) compute the value of the guaranteed liabilities and the market value of interest rate related exposures under the base scenario (referred to as V0 and A0, respectively). V0 is the value of the guaranteed insurance liabilities derived based on the valuation basis which includes the provision of risk margin for adverse deviation as prescribed in **Appendix VII**, and discounted as per the risk-free discount rate set out in paragraph 5.1 of the same Appendix;

(ii) recompute the value of the guaranteed liabilities and the value of interest rate related exposures under the increasing interest rate scenario (referred as to V1 and A1, respectively); and

36 Where the Signing Actuary views that discounting is justified for the valuation of the general insurance liabilities, the interest rate risk charge for general insurance funds shall be computed in accordance to that specified in paragraphs 4.4 to 4.10 of Part I above

(iii) recompute the value of the guaranteed liabilities and the value of interest rate related exposures under the decreasing interest rate scenario (referred as to V2 and A2, respectively).

The method is summarised below:

Scenario	**Value of interest rate exposures (1)**	**Liability value (2)**	**Surplus (1)- (2)**
Base	A0	V0	S0
Increasing interest rate	A1	V1	S1
Decreasing interest rate	A2	V2	S2

4.6 The amount of capital charges required is the higher of the reduction in surplus under the increasing and decreasing rate scenario. In the event that the reduction in surplus is higher under the increasing scenario in one fund, but higher under the decreasing scenario in another fund, then the dominant scenario at the company level should be selected and applied consistently to all funds. Any resulting negative capital charges for each individual fund should be zeroised.

4.7 The yield to value the securities under the base scenario should be the risk-free yield, in the case of government securities (e.g. Malaysian Government Securities) or the implied market yield for quoted securities or securities with similar characteristics, if unquoted. Alternatively, the base yields may be obtained from a recognised bond pricing agency. In the case of loans (and mortgages), the yield as implied by a debt security with similar tenor as the loan and carries a rating of category three or better[37], shall be used as the base yield.

37 Under paragraph 1 of **Appendix X**.

4.8 Where the interest rate exposures have embedded options, such as call or put provisions in the case of debt securities/loans, or prepayment/refinancing rights which give the borrowers the rights to prepay the amount of debt outstanding, insurers must take into account the likelihood of these options being exercised, and the effect of the exercise of these rights on the values of such debt securities/loans, under the scenarios of changes in the interest rate level. (Please refer to footnote 40 for additional guidance)

4.9 For the purpose of revaluing interest rate related exposures and guaranteed liabilities in the above scenarios, the base yield curve should be multiplied by (1 + stress_up), and (1 – stress_down), for the increasing and decreasing scenarios respectively. Values of stress_up and stress_down are based on the level of the prevailing MGS spot yields, and are prescribed in **Table 3** below. The derived values of stress_up and stress_down shall be further subject to a maximum of 40%, until otherwise specified by the Bank.

4.10 For interest rate related exposures and guaranteed liabilities denominated in foreign currencies, the base yield should be based on an appropriate risk-free yield curve, as per paragraph 9.1 of **Appendix VII**. However, the stress levels of (1 + stress_up) and (1 – stress_down) should be applied as per **Table 3** and where these stress levels may be inadequate for the underlying volatilities of foreign interest rates, the Bank may require an adjustment to the level of an insurer's Individual Target Capital Level.

Table 3: Prescribed changes in interest rates

Residual terms to maturity[38] (X)	stress_up	stress_down
$X \leq 4$ years	$0.15 + \text{Max}[0 ; 0.4(3.6 - MGS_3)]$	$0.15 + \text{Max}[0 ; 0.2(MGS_3 - 3.6)]$
4 years $< X \leq 8$ years	$0.15 + \text{Max}[0 ; 0.4(3.7 - MGS_5)]$	$0.15 + \text{Max}[0 ; 0.2(MGS_5 - 3.7)]$
$X > 8$ years	$0.15 + \text{Max}[0 ; 0.4(4.2 - MGS_{10})]$	$0.15 + \text{Max}[0 ; 0.2(MGS_{10} - 4.2)]$

Note : MGS_n denotes the spot yield of the n-year MGS at valuation date.

38 Term to maturity refers to the period remaining till the maturity of the instruments or in the case of an instrument with a floating rate coupon, the period remaining till the next repricing date of the next coupon.

(II) Computation of interest rate risk charges for general insurance and shareholders' funds without discounting of liabilities

4.11 A simplified approach is adopted for undiscounted liabilities in the general insurance and shareholders' funds to address interest rate risks in view of the short-term nature of most of the insurance liabilities.

4.12 The net value of all positions in interest rate related exposures are determined for each maturity band[39], to which risk charges are then applied. The overall interest rate risk capital charge is the absolute amount of the sum of the individual net capital charge positions. The risk charges vary according to the residual term to maturity of the securities as provided in the table below.

Table 4: Interest rate risk charges by residual term to maturity for related securities for general insurance (with undiscounted liabilities) and shareholders' funds

Residual term to maturity (X)	Risk charges (%)
X ≤ 1 month	0.0
1 < X ≤ 3 months	0.2
3 < X ≤ 6 months	0.5
6 < X ≤ 12 months	0.8
1 < X ≤ 2 years	1.3
2 < X ≤ 3 years	1.9
3 < X ≤ 4 years	2.7
4 < X ≤ 5 years	3.2
5 < X ≤ 7 years	4.1
7 < X ≤ 10 years	4.6
10 < X ≤ 15 years	6.0
15 < X ≤ 20 years	7.0
X > 20 years	8.0

39 As a general guide, the callable date shall be the legal maturity date if there is sufficient evidence to demonstrate that the debt security will be called at the said date. Where there is no legal maturity date, the longest category of. residual term to maturity, (X), of more than 20 years shall apply.

4.13 All interest rate derivative positions are subjected to interest rate risk charges, according to the term to maturity above, in the same manner as cash positions. Offsetting of fully matched long and short positions in the same underlying is allowed.

4.14 A simplified illustration on the computation of interest rate risk capital charge for a general insurer with derivatives positions is provided in **Appendix II(a)**.

5. Currency risks

5.1 An insurance fund which has exposures in currencies which are different from that of the liabilities will be subjected to a currency risk charge of 8% on the net open position. The capital charge is in addition to the credit and market risk charges described above.

5.2 To calculate the capital charge for currency risks, the net balance sheet positions for exposures to each of the different currencies are converted into Ringgit Malaysia at the spot exchange rates. The sum of the net short positions or the sum of the net long positions, whichever is higher, is then multiplied by the 8% risk charge to arrive at the currency capital charge.

5.3 The insurer's net position in each currency should be calculated by aggregating the following positions:

(i) all asset items less liabilities; and

(ii) the value of all amounts to be received less the value of all amounts to be paid under unsettled spot transactions, forward foreign exchange transactions, including currency futures, the principal on currency swap positions and interest rate transactions such as futures, swaps etc.

5.4 An example of the calculation is shown below.

Long/short position	**Long currency positions**		**Short currency positions**		
Currency	Japanese yen	Hong Kong dollar	British pound	Singapore dollar	US dollar
RM-equivalent value of net currency positions	+50	+150	-20	-180	-35
Total RM-equivalent value of net currency positions	+200		-235		

Capital charge =235[40] X 8% = RM18.8 million

6. Treatment of Options

6.1 For capital computation purposes, option positions should be reported as a position equal to the market value of the instrument underlying the option multiplied by the delta[41] of the option.

6.2 The capital charge for options with equities as the underlying assets are based on the delta-weighted positions which would have incorporated the measure of market risk as described in paragraph 2.3 of this Appendix.

6.3 Delta weighted positions of interest rate options will be subject to interest rate risk charge calculations as set out in paragraphs 4.4 to 4.10 for life insurers and general insurers with discounted liabilities, and paragraphs 4.11 to 4.13 for general insurers with undiscounted liabilities, respectively. Similar to other derivative transactions, a two-legged approach is used, which requires one entry at the time the underlying contract takes effect, and a second entry, at the time the derivatives contract matures. For instance, a bought call option on a June 3

40 The higher of either net long currency positions or net short currency positions.

41 Defined as the sensitivity of the option price relative to the instruments underlying the option.

month interest rate future will in April be considered, on the basis of its delta-equivalent value, a long position with a maturity of 5 months and a short position with a maturity of two months.

6.4 The capital charge for options on foreign currency is based on the delta-weighted position which will incorporate measurement of the exposure for the respective currency position as described in paragraphs 5.1 to 5.4.

6.5 As the delta-approach above does not capture all risks associated with option positions, such as basis, gamma and vega risks, insurers should therefore take into consideration these additional risk dimensions when setting their Individual Target Capital Level.

7. Counterparty credit risk charge for derivative positions

7.1 Where an insurer enters into derivative transactions which are transacted over the counter (OTC), it is required to hold additional capital for counterparty credit risk, using the method described below:

(i) the capital charge for each OTC derivative contract is based on its 'asset equivalent value'. The asset equivalent value is the sum of the current marked-to-market exposure of the derivative contracts with positive values and an amount for potential exposure add-on;

(ii) the potential exposure add-on is determined by multiplying the notional principal amount[42] of the derivative contract (regardless of whether the contract has a zero, positive or negative marked-to-market value) by the

42 Potential exposure add-on should be based on effective rather than stated notional amounts. In the event that the stated notional amount is leveraged or enhanced by the structure of the transaction, an insurer must use the actual or effective notional amount when determining potential exposure, e.g. a stated notional amount of RM1 million with payments calculated at two times KLIBOR would have an effective notional amount of RM2 million.

relevant credit conversion factor specified in the table below according to the nature and residual maturity of the contract;

Table 5: Add-on factor

Maturity (x)	Interest rate contracts	Equity contacts	Foreign Currency contracts
X ≤ 1 year	0.5%	6%	2%
1 < X ≤ 2 years	1%	8%[43]	5%
2 < X ≤ 3 years	2%		7%
Each additional year	1%		1%

(iii) the asset equivalent value of each derivative contract should then be multiplied by the credit risk charge applicable to the counterparty to the derivative contract to determine the capital charge (based on credit risk charge for various counterparty as presented in **Table 1** in **Appendix I**);

(iv) foreign exchange contracts which have an original maturity of 14 calendar days or less may be excluded from the requirement; and

(v) netting-off is permitted where there is a legally enforceable contractual arrangement with the counterparty under which any obligation to each other to deliver a given currency on a given date is automatically amalgamated with all other obligations for the same currency and value date, legally substituting one single net amount for the previous gross obligations.

7.2 The Bank reserves the right to require an insurer to hold additional capital against particular derivative positions where the insurer enters into significant derivative transactions in relation to its capital position or the Bank views the capital provided using the above approach to be inadequate in relation to the risks of the transactions involved.

43 This equity add-on factor is to be used by contract maturity of up to five years. For period over five years, 10% add-on is used.

8. Investments in collective investment schemes

8.1 Collective investment schemes are defined as any arrangement made for the purpose, or having the effect, of providing facilities for persons to participate in or receive profits or income arising from the acquisition, holding, management or disposal of securities, or any other property, or sums paid out of such profits or income in such schemes.

8.2 Such investments include investments in unit trust schemes, exchange traded funds (ETF), exchange-traded real estate investment trusts (including Real Estate Investment Trusts (REITs)), private real estate funds and investments in an insurer's own investment-linked funds [44].

8.3 The risk charge for investments in collective investment schemes shall be determined based on the actual asset composition at the valuation date, and if not available, the investment mandate of the schemes[45]. The following risk charges in **Table 6** shall be applicable for individual asset classes composing the collective investment schemes.

Table 6: Risk charges for assets of collective investment schemes

Types of assets	Risk charges
(a) Government securities	0%
(b) Money market instruments, including cash	1.6%
(c) Shares	16%
(d) Debt securities	4%
(e) Properties	16%
(f) Foreign assets	relevant charges above plus additional 8%

44 Restrictions on insurer's investments in own managed investment linked funds are stipulated in the Revised Guidelines on Investment-linked Business for Insurers.

45 For e.g. if a scheme is invested in a fund consisting of 50% equities , 40% Malaysian debt securities, and 10% foreign debt securities, the risk charge is [(0.5 X 16%) + (0.4 X 4%) + (0.1 X (4% + 8%))] = 10.8%.

8.4 If a scheme is mandated to invest more than 80% of its total assets in a particular asset class, the risk charge for such collective investment schemes may be based on the capital charge applicable for exposures to that dominant asset class.

8.5 The approach used to arrive at the weighted average capital charge must be applied consistently.

8.6 Where the collective scheme invests in a structured product, the portion of the fund which is invested in the structured product will be subject to a risk charge treatment as described in paragraphs 9.1 to 9.7 below.

8.7 Where the collective scheme has features that are similar to that of a structured product, the risk charge treatment as described in section 9 below shall apply in addition to paragraph 5.1 of **Appendix I**. An example of such mechanism is one where the collective investment scheme is structured to provide principal protection upon the maturity of the fund.

9. Investment in structured products

9.1 In addition to being subject to credit risk charge as explained in paragraph 5.1 of **Appendix I**, the entire marked-to-market value of the investment in the structured product is subject to a market risk charge of 20%, if the structured product carries no embedded guarantee.

9.2 Where the structured product offers a certain minimum guaranteed amount (for example guaranteed principal or minimum percentage return), the present value of the guaranteed amount shall be subject to the interest rate risk charge

calculations. The balance value of the investment will be subject to a 20% market risk charge.

9.3 The present value of the guaranteed amount shall be determined using a discount rate which reflects the credit worthiness of the product offeror and is consistent with the application of paragraph 5.1 of **Appendix I**.

9.4 The guaranteed amount is to be valued using a discounting period that is equivalent to the term to maturity of the structured product if the guarantee is provided upon the product maturity, or earlier, if the guarantee is provided up to a period prior to the maturity of the product.

9.5 Where the product is leveraged or enhanced by the structure of the investment, the effective value of the product shall be used. For example, where a product provides a return of 2x the market index performance, the insurer must use 2x the notional exposure as the effective value of exposure.

9.6 Alternatively, insurers may adopt a look-through approach to determine the appropriate market risk charges to be applicable to such products, subject to prior approval from the Bank.

9.7 Insurers should consult the Bank on the capital treatment for structured products which have features that may not be directly addressed in this section.

10. Capital charges to address concentration risks

10.1 Aggregate investments or exposures to individual counterparties in excess of the limits specified in **Appendix III** will be subjected to 100% asset concentration risk capital charge. This is not applicable to investments in foreign assets, where investments exceeding the limits are strictly disallowed.

Appendix II(a) Illustration on Capital Computation for Insurers with Derivatives Position

1. Position in equity derivatives

Assume an insurer holds the following in its portfolio:

- Shares in X of RM100 mil, Y of RM100mil, Z of RM200mil

The insurer entered into the following transaction to hedge its equity risk:

- Long Z put option with equivalent market value of RM200 mil (option delta = -0.7)
- Short, say, KLCI futures with market value of RM200million,

Assume that it can be demonstrated that the positions in X and Y are effectively hedged by KLCI futures

Insurer will be subject to the following risk charge:

- X and Y exposures are carved out from the equity risk capital computation
- Capital exposure to Z = [200 – (200x |-0.7|)] x 20% = RM12 mil

Therefore, total equity capital charge = RM12 mil

2. Portfolios of interest rate exposures (including derivatives)

Assume a general insurer holds the following in its portfolio:

(i) A private debt securities (PDS), with market value of RM20mil, residual maturity 8 years;

(ii) A Malaysian government securities (MGS), market value RM75mil, residual maturity 2 months;

(iii) An interest rate swap, RM150mil under which the insurer receives floating rate and pays fixed. The next interest fixing occurs after 9 months and residual life of the swap is 8 years;

(iv) A long position in MGS futures of RM60mil, maturing in 6 months time with underlying government security of 4 years.

Residual Term to Maturity	1<X≤3 months	3<X≤6 months	6<X≤12 months	4<X≤5 years	7<X≤10 years
Long position	75mil MGS (ii)		150 mil swap (iii)	60 mil futures (iv)	20 mil PDS (i)
Short position		60 mil futures (iv)			150 mil swap (iii)
Risk Charges(%)	0.2	0.5	0.8	3.2	4.6
Overall Net Position	+0.15mil	-0.30mil	+1.20mil	+1.92mil	-5.98mil

Therefore, the overall net position is -3.01 million (= +0.15–0.30+1.20+1.92–5.98 million), leading to a capital charge of RM3.01million.

Appendix III Investment and Individual Counterparty Limits

1. Investment limits on individual asset classes which are applicable for **each of the life insurance, general insurance and shareholders'/working funds individually**:

		Maximum limits (as a ratio of total assets of **individual** insurance funds or shareholders'/working fund)
(a)	shares not listed on the Main Market of Bursa Malaysia	5%
(b)	debt securities with rating under rating category four or poorer[46]	5%
(c)	loans other than policy loans and loans which are not secured in the manner set out in sections 3 and 4 of **Appendix I** • limit for an individual counterparty	5% 1%
(d)	foreign assets in jurisdictions with sovereign ratings at least equivalent to that of Malaysia	10%[47] (absolute limit[48])

2. Investment limits on individual asset classes which are applicable for **general** insurance funds only:

		Maximum limits (as a ratio of total assets of the **general** insurance fund)
(a)	shares listed on the Main Market of Bursa Malaysia	30%
(b)	immovable properties	20%
(c)	liquid assets[49]	minimum limit of 10%[50]

46 Under paragraph 1 of **Appendix X**.

47 Not applicable for the investment of funds backing foreign currency denominated (FX) education policies and non-unit fund of FX investment-linked policies.

48 Refer to paragraph 10.1 in **Appendix II**.

49 Refers to cash in hand and deposits with unconditional withdrawal placed with an institution licensed under the Banking and Financial Institutions Act

3. Limits for exposure to individual counterparties, including guarantee given by the counterparties(except any transaction related to a contract of insurance):

		Maximum limits (as a ratio of total assets of **all** insurance funds and shareholders'/working fund)
(a)	a counterparty licensed under the Banking and Financial Institutions Act 1989 or the Islamic Banking Act 1983, Cagamas Berhad, Khazanah Malaysia Berhad, Petroliam Nasional Berhad, Telekom Malaysia Berhad and Tenaga Nasional Berhad	20%
(b)	a counterparty listed on the Main Market of Bursa Malaysia	10%
(c)	any other counterparties	5%

4. The exposure limits are applicable on the overall exposure to individual counterparties, including that arising from investments in shares of, debt securities issued by or direct lending to a single counterparty, but excludes exposures from transactions relating to contracts of insurance.

5. The following principles shall be applied for exposures to related or interconnected counterparties:

   (i) A counterparty is deemed to be related/interconnected to another if the counterparty controls more than 50% of the equities of the other party. In the case of exposures to Special Purpose Vehicles (SPVs), such exposure shall be grouped with the sponsor of the SPV if the insurer has ultimate recourse to the sponsor in the event of default by the SPV;

1989, the Islamic Banking Act 1983 or prescribed under the Development Financial Institution Act 2002, and any papers issued or guaranteed by the Federal Government or Bank Negara Malaysia and its subsidiaries.

50 As a ratio to the gross average total claims incurred for the three preceding financial years. For example, for insurers with financial years ending 30 June, the ratio will be computed based on the average total claims incurred for financial year ending 2005, 2006 and 2007, which will be valid from 1 July 2007 until 30 June 2008.

(ii) Exposures to related/interconnected counterparties should be grouped together and be treated as an exposure to a single counterparty, subject to the single counterparty limits above;

(iii) Exposures to the related/interconnected counterparties can be disaggregated and treated as separate single counterparties where the insurer can establish that the counterparty(ies) are sufficiently independent from each other financially, to honour its individual obligations and liabilities by –

(a) drawing on its existing free financial resources without difficulty or encumbrances; or

(b) obtaining a credit facility premised on its own financial standing;

(iv) Clear internal parameters for identifying the related/interconnected counterparties that –

(a) would constitute a single counterparty; or

(b) are financially independent from each other

should be established, documented with supporting reason(s) and made available for review by the insurer's internal control and risk management functions as well as the Bank at all times;

(v) The identification for which (iv)(a) or (iv)(b) would apply should also take into consideration the materiality of any association or relationships[51] that may exist between the counterparties either directly or indirectly, that may give rise to an assumption of interconnected exposures.

6. The individual counterparty limits are not applicable to the Federal Government of Malaysia and Bank Negara Malaysia.

51 For example, entities with common marketing and/or branding platform.

7. The exposure limits are not applicable to deposits protected under the Malaysia Deposit Insurance Corporation Act 2005 to the extent of the amount insured by the Malaysia Deposit Insurance Corporation.

8. Limits specified above shall only be applicable to funds in respect of business within Malaysia and shareholders'/working funds, where applicable.

9. The limits specified in paragraphs 1, 2 and 3 shall be applied in the sequential order (before applying the risk charges).

Appendix IV Risk Charges for General Insurance Liabilities

Class		Risk charge applicable for -	
		Claims liabilities	**URR @ 75% confidence level**
1.	Aviation	30%	45%
2.	Bonds	20%	30%
3.	Cargo	25%	37.5%
4.	Contractor's All Risks & Engineering	25%	37.5%
5.	Fire	20%	30%
6.	Liabilities	30%	45%
7.	Marine Hull	30%	45%
8.	Medical and Health	25%	37.5%
9.	Motor "Act"	25%	37.5%
10.	Motor "Others"	20%	30%
11.	Offshore Oil & Gas related	20%	30%
12.	Personal Accident	20%	30%
13.	Workmen's Compensation & Employer's Liability	25%	37.5%
14.	Others	20%	30%

Appendix V Stress Factors for Life Insurance Liabilities

Valuation Parameters	Stress Factors
(i) Mortality (non-annuity)	
(a) guaranteed premium	±40% of best estimate rates
(b) non-guaranteed premium	±20% of best estimate rates
(ii) Mortality (annuity)	Rates used in valuation with 5-year setback
Total and Permanent Disability	
(a) guaranteed premium	±45% of best estimate rates
(b) non-guaranteed premium	±22.5% of best estimate rates
Critical Illness	
(a) guaranteed premium	±45% of best estimate rates
(b) non-guaranteed premium	±22.5% of best estimate rates
Renewal Expense	±20% of best estimate rates
Persistency	±50% of best estimate rates

Note: Guaranteed here indicates guaranteed for 3 years or more

1. In computing the life insurance risk capital charges, the Appointed Actuary is required to determine and declare, for each product separately, whether it is decrement-supported (e.g. lapse-supported, mortality-supported, etc), and to use the appropriate direction of stress factors accordingly. The selected direction of stress should be the one that produces the higher liability value in each case, to prevent any instances of negative LCC. The basis of selecting the stress factors for each product should be described in the accompanying actuarial report.

2. The value of V* should be computed for each policy by stressing all risk factors simultaneously in the direction selected for that product.

Appendix VI Valuation Basis for General Insurance Liabilities

1. Background

1.1 The Valuation Basis for General Insurance Liabilities (Valuation Basis) specifies the manner by which an insurer shall value the liabilities of its general insurance business at the end of each financial year.

1.2 The insurer shall appoint a General Insurance Signing Actuary (as defined in **Appendix IX**), who shall conduct the valuation using such methods and prudent valuation assumptions which:

(i) are appropriate to the business and risk profile of the general insurance business;
(ii) are consistent from year to year, to preserve comparability;
(iii) include appropriate margins for adverse deviations in respect of the risks that arise under the insurance policy;
(iv) are consistent with one another;
(v) are in accordance with generally accepted actuarial best practice;
(vi) accord a level of guarantee for the reserve held against the liabilities which is no less certain than that accorded by a Malaysian Government Security;
(vii) are consistent with the principles of fair valuation where possible and appropriate; and
(viii) secure an overall level of sufficiency of policy reserves at the 75% confidence level.

1.3 Where the Bank requires the insurer to determine the value of its insurance liabilities at any point in time other than at the end of its financial year, depending on the extent of the change in the insurer's business volume and profile, claims and underwriting process, and, policy and business conditions since the last financial year, the Signing Actuary may make adjustments to his last financial

year end calculations or conduct a full revaluation of the insurance liabilities where appropriate, such that the value of the insurance liabilities is reflective of the insurer's profile at that point in time and secures an overall level of sufficiency of policy reserves at the 75% confidence level.

2. Coverage

2.1 The Signing Actuary shall be responsible to determine the level of reserves required, based on his professional valuation of the insurer's general insurance liabilities, for each class of business, using a basis which is no less stringent than that prescribed in this Valuation Basis. The valuation will comprise of:

(i) the best estimate value of the claim liabilities;
(ii) the best estimate value of the premium liabilities; and
(iii) a provision of risk margin for adverse deviation (PRAD) for each of the best estimate values.

2.2 The **best estimate value** should reflect the statistical central estimate of the underlying distribution of the insurance liabilities concerned. The principles for determining the best estimate values of the claim liabilities and the premium liabilities are subjected to considerations of materiality and the professional judgment of the Signing Actuary, and shall reflect the individual circumstances of the insurer, for each class of business.

2.3 The **PRAD** is the component of the value of the insurance liabilities that relates to the uncertainty inherent in the best estimate. PRAD is an additional component of the liability value aimed at ensuring that the value of the insurance liabilities is established at a level such that there is a higher level of confidence (or probability) that the provisions will ultimately be sufficient. For the purpose of this

Valuation Basis, the level of confidence shall be at 75% at an overall Company level.

2.4 **Claim liabilities** refer to the obligation by insurers, whether contractual or otherwise, to make future payments in relation to all claims that have been incurred as at the valuation date. These include provision for claims reported, claims incurred but not reported, claims incurred but not enough reserved and direct and indirect claims-related expenses such as investigation fees, loss adjustment fees, legal fees, sue and labour charges and the expected internal costs that the insurer expects to incur when settling these claims. The value of claim liabilities will consist of the best estimate value of the claim liabilities and the PRAD calculated at the overall Company level (see paragraph 7.3).

2.5 **Premium liabilities** refer to the higher of:

(i) the aggregate of the Unearned Premium Reserve (UPR), calculated as described in section 5 of this Valuation Basis, for all lines of business;
or

(ii) the best estimate value of the insurer's unexpired risk reserves (URR) at the valuation date and the PRAD calculated at the overall Company level (see paragraph 7.3). The best estimate value is a prospective estimate of the expected future payments arising from future events insured under policies in force as at the valuation date and also includes allowance for the insurer's expenses, including overheads and cost of reinsurance, expected to be incurred during the unexpired period in administering these policies and settling the relevant claims, and shall allow for expected future premium refunds.

2.6 The value of the insurer's general insurance liabilities shall be the aggregate of the values of the Premium Liabilities and the Claim Liabilities.

2.7 The investigation on the value of the general insurance liabilities by the Signing Actuary shall be submitted as a report to the board of directors and senior management and shall be referred to as "The Report on Reserves for General Insurance Business" (the Report). The Signing Actuary shall also disclose the extent of compliance with the requirements of this Valuation Basis and disclose reasons for non-compliance, if any. The general format of the Report, outlining the minimum information required to be included, is set out in **Appendix VI(a)**.

2.8 The primary responsibility for the adequacy of the valuation of insurance liabilities rests with the board of directors and senior management. The board of directors and the senior management are expected to discuss the results of the Report with the Signing Actuary, including any non-compliance with the Valuation Basis. The board of directors is also expected to ensure proper and timely actions are undertaken based on these results.

3. Data and Information Used by the Signing Actuary

3.1 The CEO of an insurer is responsible to ensure that the insurer's database is properly maintained so that the data used by the Signing Actuary is consistent, accurate and complete[52]. The Signing Actuary shall have unrestricted access to the insurer's database and the CEO shall furnish the Signing Actuary immediately, upon request, with data and explanation as he may require.

3.2 The Signing Actuary shall apply reasonableness tests to satisfy himself that the data he receives is consistent, accurate and complete. A check for both the integrity and completeness of data should precede the valuation work.

52 Insurers should refer to the Guidelines on Data Management and Management Information System (MIS) Framework.

3.3 The Signing Actuary shall ensure that the data used gives an appropriate basis for estimating the insurance liabilities. The data includes the insurer's own exposure and claim experience data, and industry data where the insurer's own data is insufficient for the Signing Actuary to make reasonable estimates. In circumstances where industry data is sparse, the Signing Actuary may rely on his professional judgement in making the estimates. In this situation, the Signing Actuary shall justify his approach.

3.4 The extent to which the Signing Actuary relies upon the data provided by the insurer and any limitations of such reliance, shall be clearly explained in the Report. Where the Signing Actuary has reason to believe that the data is incomplete, inaccurate, or unreliable, the Signing Actuary shall consider whether the use of such data may produce material biases in the results. In such circumstances, the Signing Actuary shall make an appropriate allowance in his estimations and document the basis of such an allowance.

3.5 The Signing Actuary shall determine the most appropriate grouping of risks into lines of business or sub-lines of business, based on the availability of data, homogeneity of the data or similarity in business characteristics, nature of exposure to loss and loss settlement pattern, for the purpose of the valuation of the insurance liabilities. It is important not to subdivide data to such an extent that the analysis becomes unreliable due to the paucity of data within a particular line or subline of business. The Signing Actuary shall explain in the Report, the manner in which the risks have been pooled into homogenous groups.

3.6 Notwithstanding the grouping of risks that the Signing Actuary may use in determining the insurance liabilities, the value of the claims and policy liabilities shall also be reported for the lines of business (if applicable) as per **Appendix VI(g)**.

3.7 The Signing Actuary may make adjustments to the data collated to account for abnormal items such as large losses or catastrophe losses. Where such adjustments are made, the nature, amount and rationale for the adjustments shall be clearly documented.

3.8 Besides quantitative information, the Signing Actuary shall also seek qualitative information from the insurer's management regarding underwriting policy and processes, claims policy and processes, reinsurance arrangements, policy coverage, legal decisions affecting claim settlements, other operational issues such as change of computer system, turnover of key personnel, and any other relevant information relevant to his valuation of the liabilities. Failure to seek such qualitative information should be revealed in the Report including the reasons for this.

4. Case-by-case claims reserves for reported claims

4.1 With reference to the "claims reported" in paragraph 2.4, an insurer shall enter in its register of claims, maintained in compliance with section 47(1)(b) of the Act, every claim intimation it receives from any source in respect of its policies, no later than 14 days from the date of receipt of the claim intimation, unless it establishes that the claim does not relate to any of its policies. Where the particulars of a claim intimation are insufficient for it to determine whether the claim relates to its policy, the insurer shall make necessary enquiries to determine its liability.

4.2 An insurer shall make adequate provision in its accounts for a claim, which it has not fully settled, on the basis of the particulars of the claim.

4.3 Where the particulars of a claim intimation are insufficient at the time of entering a claim in the register of claims to enable the insurer to estimate its liability in respect of that claim, it shall make, in respect of that claim, a provision which is not less than the average amount paid during the preceding financial year for a claim of that class or description.

4.4 An insurer shall make provision for a claim by a third party by taking into account the best estimate of the amount of compensation likely to be awarded in the circumstances of the case and on the assumption that full liability of its policy owner is admitted.

4.5 An insurer shall make adequate provision for legal fees which may be incurred to defend its repudiation of a claim where the claim is, without any doubt, outside the scope of its policy, and the provision may be written back only if there are no developments with regard to the claim for at least 12 months following the repudiation.

4.6 An insurer shall make provision for an amount it considers adequate for a claim, assuming that the claim will be resolved in favour of the claimant, which it repudiates in circumstances other than that under paragraph 4.5 above.

4.7 An insurer shall not reduce a provision for a claim to an insignificant amount solely because the claimant has not proceeded with any action and shall maintain an adequate provision for the claim until such time that the claim is barred by limitation of time.

4.8 An insurer shall review the provision for every outstanding claim at least once a year.

5. Computation of the Unearned Premium Reserve

5.1 An insurer, other than a professional reinsurer, shall determine its UPR in respect of Malaysian general policies as follows :

(i) for Malaysian cargo policies, an amount not less than 25 per cent of the premiums; and

(ii) for other descriptions of Malaysian general policies, an amount calculated on the basis of a method of computation no less accurate than—

(a) for policies with a duration of 12 months, the 1/24th method; and

(b) for non-annual policies, a method which operates on the assumption of premiums accounted during each month of the duration of the policy being uniformly spread over the respective month,

applied consistently to premiums, reduced by the percentage of accounted gross direct business commissions and agency-related expenses to corresponding premiums for Malaysian general policies, but not exceeding such limits on the commissions and expenses as the Bank may specify for each description of general business.

5.2 A professional reinsurer shall determine its UPR in respect of Malaysian general policies as an amount calculated on the basis of a method of computation no less accurate than the 1/8th method, applied to premiums for Malaysian general policies with a deduction of 20 per cent from that amount.

5.3 The amount of UPR determined in paragraphs 5.1 and 5.2 may be reduced for reinsurance ceded. Where the reinsurance is ceded to (re)insurers other than those licensed under the Act or qualifying reinsurers, the reduction in the amount of UPR shall not exceed the lower of—

(i) the proportion of the UPR on premiums ceded to said reinsurers, other than in respect of special risks, with a deduction for commission at the same rate as provided under paragraph 5.1(ii); or

(ii) the deposits retained from the said reinsurers for reinsurance of Malaysian general policies, other than in respect of special risks, for which premiums are accounted during the preceding 12 months, provided the deposits are held by the insurer—

(a) as security for the said reinsurer's due performance of its obligations under the reinsurance contract; and

(b) for a period of at least 12 months or until termination of the related liabilities of the said reinsurer, if earlier.

5.4 Any arrangement made by an insurer, which treats a liability of a branch in Malaysia in respect of any Malaysian general policy as a liability, in whole or in part, of a branch outside Malaysia, shall constitute reinsurance of those liabilities as if the branches were separate insurers and the arrangement was a contract between them. For this purpose, an insurer's head office shall be treated as a "branch".

5.5 A local insurer shall determine its UPR in respect of foreign general policies as an amount calculated on the basis of a method of computation no less accurate than the 1/8th method, applied to premiums in respect of foreign policies relating to any description of general business with a deduction of 20 per cent from that amount.

5.6 With reference to paragraph 5.1(i), a "cargo policy" means a policy insuring cargo against risks during the whole or part of a transit (whether such transit is by sea, inland water, land, or air), including risks incidental to the transit.

5.7 With reference to paragraphs 5.1 and 5.2, the "premiums" refer to the amount of premiums on direct insurance business and on reinsurance business accepted

for Malaysian general policies from insurers, accounted for during the preceding 12 months, after deducting return premiums and premiums accounted during the period in respect of cessions to insurers licensed under the Act, qualifying reinsurers and foreign reinsurers in respect of special risks.

5.8 With reference to paragraph 5.5, the "premiums" refer to the amount of premiums on direct insurance business and on reinsurance business accepted, accounted for during the preceding 12 months, after deducting return premiums and premiums on reinsurance cessions.

5.9 With reference to paragraphs 5.3 and 5.7, "special risks" refer to the insurance of—

(i) a marine hull or aircraft hull and liabilities relating to either hulls;

(ii) risks relating to exploration, development and production of oil or gas, whether offshore or onshore, for the account of owners, operators or contractors of such risks; or

(iii) any other risk which by reason of its exceptional nature the Bank permits to be treated as a special risk.

5.10 With reference to paragraphs 5.1, 5.2 and 5.5, the "1/24th method" and "1/8th method" refers to the time apportionment method of computation which operates on the assumption that premiums accounted during each time period in a year are uniformly spread over that time period, where the time period is a month, and a quarter, respectively. In both methods, all policies are assumed to be in force for a duration of 12 months.

5.11 With reference to paragraph 5.3, a "qualifying reinsurer" refers to a (re)insurer which is licensed under the Labuan Financial Services and Securities Act 2010[53], and satisfies the following conditions—

(a) the reinsurer carries a financial strength rating of category three or better[54] or

(b) (i) the (re)insurer has obtained an explicit and irrevocable guarantee[55] from its parent company (or head office[56]) to fully support the (re)insurer in the event of financial difficulties; and

(ii) its parent company (or head office) is licensed under the Act, or carries a financial strength rating of category three or better[55]. For the purpose of meeting the rating requirement, the rating of subordinated debt issued by the parent company (or head office) that is rated with rating of category three or better[55], may be accepted.

6. Methods of Evaluating Best Estimates

6.1 The Report shall include a description of the methods used and the key assumptions made which may include those related to expenses, claims escalation, discounting, development factors and ultimate loss ratios selected, and reinsurance and non-reinsurance recoveries.

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53 Administered by the Labuan Financial Services Authority.

54 Under paragraph 1 of **Appendix X**.

55 The guarantee should at least:

(i) Cover all reinsurance arrangements between the reinsurer and any Malaysian entities licensed under the Insurance Act 1996;

(ii) Cover the amount of the reinsurer's liabilities to Malaysian entities arising from the reinsurance arrangements referred to in (i) above in its entirety (including reinsurance recoveries or other liabilities as agreed upon in the reinsurance transactions);

(iii) Be in place for the entire duration the reinsurer is exposed to the risk of the arrangements;and

(iv) Be irrevocable, subject to the validity of the reinsurance claims, and the reinsurer shall not unilaterally cancel the guarantee under any circumstances, as long as the arrangement in (i) above still exposes the reinsurer to the risk of claims.

56 For branches of reinsurers, the head office shall provide an irrevocable and explicit undertaking to immediately transfer funds in the event (or expected) depletion of the working capital or in the event of a large loss being intimated.

6.2 Where the Signing Actuary has adopted a standard and well understood method such as the link-ratio method or the Bornheutter-Ferguson method to estimate the claim liabilities, a brief reference to the method would suffice. If a non-standard method or a modified standard method is used, the Signing Actuary shall provide a detailed description of the method. Assumptions to validate the use of the non-standard method or a modified standard method shall also be furnished.

6.3 Whilst the Signing Actuary has the discretion to use professional judgement in deciding on the methods and assumptions to be adopted for the valuation of the insurance liabilities, he shall ensure that the methods and assumptions adopted are appropriate, taking into account factors such as:

(i) the classes of business written;
(ii) the nature, volume and quality of the available data;
(iii) the circumstances of the insurer; and
(iv) considerations of materiality.

6.4 Due to the uncertainty in insurance business, it is appropriate for the Signing Actuary to use more than one method to evaluate the best estimate values. The assumptions for each method shall be clearly disclosed in the Report. The results obtained by one method should be tested against that of the other method(s). Where results of different methods differ significantly, the Signing Actuary shall comment on the likely reasons for the differences and explain the basis for the choice of the results.

6.5 If the Signing Actuary's valuation result is lower than the aggregate case-by-case claims reserves, and the Signing Actuary wishes to take credit for the difference, he shall disclose why a release of reserves is justified.

6.6 For a reasonably homogeneous and stable portfolio, the URR may be estimated by extending the outstanding claim valuation model on the basis of claim frequencies, average claim costs and ultimate loss ratios or some similar measure of exposure. If this is done, the Signing Actuary should adjust the assumptions to reflect the changes in risk exposure, underwriting standards, premium rate levels, and other relevant factors on the expected future claims experience. In any case, the Signing Actuary shall give due consideration to the appropriateness of the method and assumptions used.

6.7 Where there are key differences in assumptions between the valuations of the Claim liabilities and the Premium liabilities, the Signing Actuary shall provide justification(s) for these differences.

7. Methods of Evaluating Provision of Risk Margin for Adverse Deviation (PRAD)

7.1 In most cases, some judgment will be required in establishing appropriate levels of PRAD. It is the Signing Actuary's responsibility to support this judgement with such formal analysis as is practical.

7.2 In estimating PRAD, the Signing Actuary may have regard to relevant findings in recent actuarial research or literature, if this is deemed to be appropriate. If PRADs are based on internal analysis, details of this analysis shall be provided. If reliance is placed on external work (e.g. from actuarial research or literature on the topic), then the source of that work shall be disclosed.

7.3 To obtain a 75% level of adequacy at a Company level, the Signing Actuary may allow for the diversification of risk due to correlations between the risks from

different lines of business, by reducing the levels of PRAD calculated by line of business. The amount of any credit taken for such diversification shall be determined consistently with the overall principles used in calculating the PRAD by line of business. The methodology, data, assumptions and justification used to determine such credit, shall be clearly disclosed in the Report.

7.4 Diversification results obtained from a statistical method must be rationalised to ensure that such results are not due to data quality issues and/or not due to the adoption of inappropriate assumptions / statistical methods, rather than a valid statistical reason. The Signing Actuary must consider the appropriateness of using a triangle of combined data and give due regard to the extent that underlying volatilities may be obscured. An insurer with business primarily concentrated in one particular class of business would expect very little or no diversification credit available compared to an insurer with a more even spread of business in various classes. Where the Signing Actuary's calculated value of the diversification discount is more than 50% of the sum of the PRAD by class of business, the Signing Actuary shall only consider a diversification discount of a maximum of 50% of total PRAD.

8. Outwards Reinsurance

8.1 Insurance liabilities may be determined net of reinsurance. The Signing Actuary shall also consider the nature and spread of reinsurance arrangements, including significant changes to the arrangements, non-performance of reinsurance and the likelihood of obtaining the recoveries. Non-reinsurance recoveries such as recoveries by sale of salvage, carriers or other third parties in respect of claims paid shall also be considered.

8.2 In instances where there are significant changes in the reinsurance arrangements or where outstanding reinsurance recoveries have a material

impact on the estimate of the value of the insurance liabilities, the Signing Actuary shall consider conducting the valuation on both gross and net of reinsurance basis.

8.3 The Signing Actuary shall disclose how reinsurance and non-reinsurance recoveries have been taken into account in the valuation of the liabilities and the underlying assumptions of the treatment adopted. The underlying principle is that the amount of recoveries to be recognised shall be based on the extent of their recoverability. Where there is considerable uncertainty concerning future recoverabilities, the Signing Actuary shall exercise a degree of caution such that liabilities are not understated.

9. Inwards Reinsurance

9.1 This Valuation Basis shall also apply to facultative inwards reinsurance. For treaty inwards reinsurance and pool inwards, where a comprehensive actuarial estimate is not possible due to the limitation of available data, the Signing Actuary shall make appropriate adjustments such that the reserves approximate to the best estimate and the 75% confidence level. Additional matters relating to inwards reinsurance are set out in **Appendix VI(b).**

10. Discounting

10.1 The Signing Actuary shall exercise judgement on the use of discounting in the valuation of liabilities where the effect of such discounting is material. The Signing Actuary shall apply explicit discounting, and shall only apply the discounting if this is deemed to be justified in his professional judgement. The Signing Actuary shall not apply implicit discounting in his valuation. Once explicit

discounting is applied to all valuation of liabilities, the reversal of the application of explicit discounting is disallowed.

10.2 Where discounting is deemed to be justified, the rate to be used in discounting the expected future payments for a line of business shall be the risk-free discount rate. In any case, the Signing Actuary shall ensure that the resulting reserve is sufficiently prudent to meet the liabilities.

10.3 The risk-free discount rate shall be derived from a yield curve, as follows:

(i) for durations of less than 15 years : zero-coupon spot yield of MGS with matching duration; and

(ii) for durations of 15 years or more : zero-coupon spot yield of MGS with 15 years term to maturity,

where duration is the term to maturity of each future cash flow. The MGS zero-coupon spot yields shall be obtained from a recognized bond pricing agency in Malaysia, or any other source as may be specified by the Bank. Where yields at certain durations are not available, these yields shall be appropriately interpolated from the observable data.

10.4 Where discounting is used, the Signing Actuary shall disclose in the Report, the categories of claims in relation to which discounting has been applied and the rationale behind the use of discounting.

11. Claim escalation

11.1 The Signing Actuary shall incorporate assumptions on claim escalation either explicitly or implicitly in his valuation. Where discounting of liabilities is used, the Signing Actuary shall apply explicit claim escalation assumptions. The Signing

Actuary shall apply the following principles in considering the relevant factors for the purpose of determining the explicit claim escalation assumptions:

(i) Appropriate analyses on the key claim escalation factors shall be conducted and projection of future claim shall be adjusted as appropriate. The resulting claim escalation factors shall not be lower than the levels implied by historical claim data;

(ii) Explicit allowance for claim escalation, in addition to that implied by historical claim data, shall be provided if the Signing Actuary views that the statistical methodologies employed do not fully capture the risks of future escalation when applied to aggregate historical claim data;

(iii) Case reserves should be reasonably tested for adequacy by the Signing Actuary to ensure that the discounting of liabilities will not expose the insurer to risk previously mitigated by the holding of undiscounted liabilities;

(iv) Results of the analyses of experience (please refer to section 13 of **Appendix VI**) shall be used to gauge the appropriateness of past claim escalation assumptions; and

(v) The assumptions and explicit allowances for the claim escalation factors shall be appropriately prudent and ensure that the overall claim liabilities secure an overall level of sufficiency at the 75% confidence level as per paragraph 1.2(viii) in **Appendix VI**.

11.2 The Signing Actuary shall make appropriate allowance to take into account of future claim escalation which may be attributable to economic inflation factors such as wages and price inflation and other non-economic inflation factors such as increasing court awards, medical cost inflation and technological improvements:

(i) Economic inflation factors may be determined based on the use of publicly available information on historic wage or price inflation and economists' forecasts to determine the future inflation rate; and

(ii) Non-economic inflation factors may be determined by considering the insurer's own claim experience as well as known general industry trends in the lines of business written by the insurer. For smaller portfolios, where it is difficult to identify non-economic inflation or its level, it may be necessary for the Signing Actuary to rely on industry analysis or other actuarially accepted views.

11.3 The Signing Actuary shall disclose in the Report, the inflation rates, the source and the methodology from which they are derived.

12. Expenses

12.1 The Signing Actuary shall make separate allowance for policy and claim administration expenses where such expenses are not included in the data being analysed for insurance liabilities. This allowance may vary between the claim and premium liabilities.

12.2 Where possible, the Signing Actuary should analyse historical levels of expenses when determining the appropriate future expense assumptions. Where the insurer's own expense analysis does not properly allocate expenses between policy issue, ongoing policy administration, claim establishment and claim management, the Signing Actuary may give regard to industry benchmarks. However, such effects shall be clearly documented.

13. Analysis of Experience

13.1 The Signing Actuary shall carry out a comparative study between actual experience and the expected experience from the previous valuation or earlier reports of similar nature. This could include comparing the actual amounts

incurred or paid during the year with the expected amounts from the valuation model. The Signing Actuary could also carry out comparisons on the number of claims, average claim size, claim frequency or any other analysis deemed appropriate. The results and interpretation of the comparative studies shall be included in the Report.

13.2 Should there be any major differences in the actual versus expected experience, the Signing Actuary shall consider revising the assumptions used in his valuation to reflect the trends in the experience.

13.3 The Signing Actuary shall consider the reasonableness of the results of his valuation and quantify the effects of changes in the valuation basis since the previous valuation. Where there has been material change in the method and assumptions adopted since the previous valuation, the Signing Actuary shall justify the change.

14. Business outside Malaysia

14.1 The valuation of liabilities in respect of policies for business outside Malaysia shall be conducted on a basis not less stringent than the basis required by the laws of the country in which the policy is issued but not less stringent than the basis in this Valuation Basis. In the absence of any basis specified by the laws of that country, the policies shall be valued in accordance to this Valuation Basis.

15. Foreign Currency-Denominated Policies

15.1 Foreign currency-denominated policies shall be valued in accordance with this Valuation Basis and converted into Ringgit Malaysia currency using the spot

currency conversion rate as at the valuation date. The method for determining the spot conversion rate should be consistently used.

16. Presentation of the Valuation

16.1 For the purpose of presentation of the best estimate values of claims and premium liabilities and the PRADs in the Report based on the homogeneous classes as determined by in accordance with paragraph 3.5 of this Valuation Basis, the Signing Actuary shall refer to the required format provided in **Appendices VI(c) and VI(e)**. For further guidance, the workflows of the computation for claims and premium liabilities are also provided in **Appendices VI(d)** and **VI(f)**. The claims and premium liabilities shall also include reinsurance and pool inwards as required under paragraph 9.1.

16.2 The Signing Actuary shall provide detailed worksheets, relevant supporting documents and sufficient information leading to his estimation of claims liabilities and premium liabilities as appendices to the Report, such that any other suitably experienced Signing Actuary may verify the results without access to him.

17. Certification of the Valuation

17.1 Insurers writing general insurance business will be required to set up provisions for their Claims Liabilities and Premium Liabilities in accordance with this Valuation Basis and submit to the Bank, the Report signed by the Signing Actuary and the CEO or his authorised signatory.

17.2 The Signing Actuary shall state in the Report, his name and professional qualifications, and where the Signing Actuary is an employee of the insurer or a related company, the capacity in which he is carrying out the investigation.

17.3 The report shall be submitted to the board of directors annually, not later than 3 months after the end of each financial year and the board of directors and senior management should discuss with the Signing Actuary the results of his valuation.

18. Reporting

18.1 Insurers are required to submit the Report to the Bank within three months from the financial year end together with the annual audited financial statements or on other such date as may be requested by the Bank.

19. Review of Provision for Claims Liabilities and Premium Liabilities

19.1 Where the Bank has reason to believe that the provision for Claims Liabilities and Premium Liabilities made by the insurer is not appropriate having regard to the business and risk profile of the insurer, the Bank may:

(i) recommend to the insurer a provision amount which it considers appropriate; or

(ii) require the insurer to obtain a valuation of its Claims and Premiums liabilities from another Signing Actuary. The Signing Actuary shall report directly to the Bank within a period as the Bank may specify.

19.2 For the purpose of paragraph 19.1(ii), the insurer shall submit the names of at least two actuaries together with such particulars as the Bank may require. The

Bank may approve one of the two actuaries or may designate another Signing Actuary to carry out the valuation.

19.3 The insurer shall inform the approved or designated Signing Actuary of all the relevant regulatory requirements relating to the valuation of liabilities. The insurer shall provide the Signing Actuary with all the data and explanation he requires, and any other additional information and facts relating to its business which the insurer considers relevant.

19.4 The insurer shall not require the approved or designated Signing Actuary to discuss his findings or seek its agreement to his valuation results.

19.5 The Bank may require, upon making the suggestion under paragraph 19.1(i), or upon considering the report made by the Signing Actuary approved or designated under paragraph 19.2, require the general insurer to show cause within 14 working days as to why it should not be directed under subsection 92(3) of the Act to resubmit its accounts by altering the claims liabilities or premium liabilities to an amount suggested by the Bank.

19.6 The Bank may take action under subsection 92(3) of the Act following a notice under paragraph 19.5.

Appendix VI(a) The Report on Reserves for General Insurance Business for the year ended 20XX

Name of Insurer/Reinsurer : _____
Name of Signing Actuary : _____
Qualifications : _____

Section A: The Business Profile of the Insurer/Reinsurer

1. Describe the company's business portfolio. This may include a description of history, statistics such as a breakdown of premium income or case reserves by class of business etc.

2. Describe the company's underwriting process, including current policy, processes, systems and controls and changes over the period from which data was used in the valuation process. This may include matters such as:

- specific market segments that are targeted by the underwriters;
- how risks are selected;
- any major recent changes in premium rates and policy conditions;
- any recent changes in levels of underwriting authorities;
- any recent changes in key personnel and delegation of authority; and
- any changes in level of deductibles or policy limits.

3. Describe the company's claim management process including current policy, processes, systems and controls and changes over the period from which data was used in the valuation process. This may include matters such as:

- guidelines for setting case reserves and any recent changes in case reserving;
- when claims are recognised, policy on opening and closing of claims;
- any changes in the way claims are finalised;
- policy on settlement of claims;
- any major personnel changes;
- the use of loss adjusters; and
- degree of legal involvement in claims.

4. Describe the current reinsurance arrangements. This may include matters such as:

- The structure of reinsurance programme and shares of participating reinsurers.
- Any significant changes to the programme over recent years.
- Consideration of any pending changes to the reinsurance arrangements which may have an impact on the net of reinsurance UPR or URR.

- Consideration of the potential risk of default of reinsurance recoveries based on publicly available information.

5. Describe the general business and industry conditions:
   - Description of significant events during the year affecting the claims experience and how these were taken into account in the valuation of the liabilities.
   - May include consideration of effects from factors including economic, technological, medical, legislative environment, social trends, competition, court decisions, consumerism etc.

Section B: Data

1. The Signing Actuary should document the key features of the data in the report. The information should include:

   - The basis on which the analysis has been carried out (i.e. underwriting or accident year, net or gross of reinsurance).
   - The source of the data and how it was extracted, including reliance on work of external auditors.
   - How the business was subdivided into valuation classes.
   - Comments on the reliability and completeness of the data and discussion on the steps taken to test the consistency, accuracy and completeness of the data.
   - Documentation of any adjustments made to the data to allow for abnormal items such as large losses, catastrophe losses, etc, including the mature, amount and rationale for the adjustment.
   - Documentation of quantitative info which may have an impact on valuation.

2. Statistics

   - Statistics should be built up to a minimum of seven years of data. Where more data are available and/or appropriate for use, these should be included.
   - For longer tailed classes, more years of data may be needed for the analysis to be appropriate.

3. Experience Analysis. Where possible the Signing Actuary should discuss matters such as:

   - Trends and possible reasons for the trends in premium growth, speed of settlement and emergence of claims, average claim size, average claim frequency, average cost per claim, on paid and incurred basis.
   - Experience of large claims within the portfolio.

Section C: Valuation Methodology

1. Valuation of Best Estimate :

   - Describe in detail the valuation methods for estimating the Best Estimates of Claims and Premium Liability.
   - If a non standard method has been used, provide a detailed description of how the method works and the key assumptions on which it is based.
   - Where more than one method is used, state the basis for the choice of results.
   - Details should be provided of any changes in the valuation methods used since the last valuation.
   - Justification for key differences in assumptions between valuations of Claims and Premium liabilities

2. Valuation of Provision of Risk Margin for Adverse Deviation (PRAD) :

   - Describe in detail the methods for the derivation of the PRAD at 75% confidence level by line of business.
   - Describe the methods, assumptions and justification for any diversification credits applicable to arrive at the PRAD at Company level to ensure 75% confidence level at Company level.

3. Presentation of the Valuation :

   - Summarise the results of the valuation of the claims and premium liabilities in accordance with Table 1 in **Appendix VI(c)** and Table 2 in **Appendix VI(e)** respectively, and in Table 3 in **Appendix VI(g)**.
   - Comment on the level of sufficiency of the Signing Actuary's valuation of the reserves. Comment on the level of sufficiency of the Company's actual held provisions relative to the Signing Actuary's valuation.
   - Provide reserves breakdown for reinsurance and pool inwards by sources of business, in particular where these are significant.

Section D: Valuation Assumptions and Analysis of Experience

1. Describe in detail and provide justification for the key assumptions made for the valuation methodology used, such as:

   - premium rates changes
   - development factors, ultimate loss ratios
   - expense rates
   - reinsurance and non-reinsurance recoveries
   - discounting and details of classes where discounting is used including the rationale for applying discounting
   - claims escalation rates including the source and methodology from which they are derived

2. Documents the results and interpretation of experience analysis or comparative studies, for example on:

   - actual experience of both Unexpired Risk Reserves and Claims Liabilities versus expected experience in previous valuations;
   - discussion of the results obtained from current and previous valuation, stating reasons for any material change observed;
   - discussion and justification for material changes in method, assumption or basis used since last valuation, including quantifying the impact on reserves;
   - comparison of actual experience over the past year(s) with the expected experience based on previous valuation or earlier reports of similar nature (e.g. by comparing the sum of reserves held and actual claims paid in each development year against reserve estimated in the previous development year, separately by accident/ underwriting year, where possible);
   - where more than one valuation method was used, and the results obtained differ significantly, discuss the possible reasons for the differences;
   - justify any credit given for the difference in valuation results and aggregate case by case reserves; and
   - results of study on number of claims, average claim size, claims frequency, etc.

Section E: Others

1. The Signing Actuary should include the following specific details in the Report:

   - Details of the party that has commissioned the report, and if different, the addressee(s) of the report;
   - The name of the Signing Actuary and the capacity in which the Signing Actuary is acting;
   - The purpose of the report or the terms of reference given;
   - Any potential conflict of interest and how this has been resolved;

- The extent, if any, to which the Report falls short of, or goes beyond, its stated purpose; and
- Any restriction placed on the Signing Actuary in carrying out the valuation.

2. Compliance:
   - The Signing Actuary should document the extent of compliance to the requirements of the guidelines and the reasons for non-compliance of the requirements, if any.

3. Definition of terms:
   - The Signing Actuary should provide the definition of terms and expressions used in the Report which may be ambiguous or subject to wide interpretation.

4. Recommendations:
   - Where applicable, the Signing Actuary should provide recommendations or comments to improve the reliability of future valuations of the insurance liabilities.
   - In cases where recommendations have been made, commentary should be provided on the responses given by the board of directors or Company management to those recommendations, and any follow up actions to be taken.
   - Where applicable, the Signing Actuary shall comment on the actions taken by the board of directors in the current valuation year, in respect of the recommendation made by the Signing Actuary in the previous year's valuation.

Section F: Supporting Worksheet and Appendices

1. Summary of Information

   - The Signing Actuary shall prepare a detailed summary of all the data and other information used to arrive at the valuation results. This could include information on:

     - accounting (e.g. financial statements) and other internal financial information/reports;
     - reinsurance arrangements;
     - underwriting and claims management;
     - other recoveries (e.g. subrogation);
     - summary of claims data provided; and
     - sources used to set financial assumptions (e.g. discount and inflation rates).

- Information sought will include both quantitative (e.g. electronic claims data and financial statements) and qualitative information (e.g. information obtained from discussions with management, finance department, underwriting and claim management).

2. Workings on Valuation Method

- The summary of the valuation results should be sufficiently transparent to enable another Signing Actuary to review the adopted methodology.
- For example, where a chain ladder approach is applied to incurred claims, the appendix should include for each group of risk or business lines:

    - triangle of paid claims;
    - triangle of case estimates;
    - triangle of incurred claims;
    - chain ladder factors and selected factors for projection;
    - projection of ultimate incurred claims;
    - projected loss ratios; and
    - assessment of outstanding claim liability allowing for inflation and discounting if appropriate.

Section G: Certification by the Signing Actuary

The Signing Actuary should provide a certification as set out below:

I hereby certify that:

1. All necessary enquiries have been made and to the best of my knowledge and professional opinion, after applying sufficient tests, the valuation obtained was reasonable;

2. I am satisfied that the credit given for reinsurance in the valuation of insurance liabilities has been based on sufficiently prudent assumption of the probability of future recoveries and reinsurer's default or inability to meet its obligations as per the terms of the reinsurance arrangements;

3. I assume full responsibility for the valuation results and this report in its entirety, including any part of the work which has been delegated to another person; and

4. I am familiar with all applicable legislation, regulations and directives of Bank Negara Malaysia and confirm that the valuation is prepared in accordance to these regulatory requirements.

Signature: _____

Name: _____

Date: _____

Signing Actuary

Section H: Certification by the CEO

The CEO should provide the following certification:

I hereby certify that:

1. I have satisfied myself that all procedures that may affect the determination of claim and premium liabilities, including but not limited to, computation of unearned premium reserves and maintenance of case-by-case claims reserves are appropriate and in compliance with all applicable legislation, regulations and directives of Bank Negara Malaysia; and

2. I have satisfied myself that the data provided to the Signing Actuary is accurate and complete.

Signature: _____

Name: _____

Date: _____

Chief Executive Officer

Appendix VI(b) Additional Guidance Notes for Inwards Reinsurance

1. Due to the more volatile nature of reinsurer's claims experience and the lesser amount of data available to the reinsurers as compared to direct insurers, the reinsurer's own data may not be sufficient for the Signing Actuary to reliably estimate the reserves for insurance liabilities. As such, the Signing Actuary will have to utilise additional information obtained from external sources in the valuation and exercise more judgment than in the case of direct insurance. The Signing Actuary shall clearly document the justification for his judgement in the Report.

2. Data limitations may have significant impact on the Signing Actuary's approach in calculating the PRAD. The Signing Actuary may not be able to formulate PRAD assumptions based solely upon the reinsurer's own data and hence, may need to consider how the levels of PRAD obtained for direct insurers could be adjusted to be applicable to reinsurance.

3. In grouping data into homogeneous valuation classes, the Signing Actuary may consider analysing data by the following subgroups:

   3.1 type of reinsurance (e.g. Treaty proportional and non-proportional, Facultative proportional and non-proportional);

   3.2 geographical location of risk; and

   3.3 line of business (e.g. Property, Marine, Liability).

4. The classes chosen should be based upon the Signing Actuary's view of the extent and reliability of the data. The Signing Actuary shall include an explanation as to the manner in which the risks have been pooled into homogeneous groups in the Report.

5. The Signing Actuary shall seek qualitative information (see paragraph 3.8 of the Valuation Basis). Better understanding of the nature of the business written currently and in the past, the trends in reinsurance premium and exchange commission rates, and the types of reinsurance programs, policy limits, insurer's deductibles, etc., will allow the Signing Actuary to make appropriate allowances in his valuation.

6. Since many property proportional treaties are accounted for on a clean-cut basis and hence do not exhibit development patterns shown by treaties written on a run-off basis, the Signing Actuary shall use an appropriate basis to allow for these contracts.

7. The Signing Actuary shall make appropriate allowances for inwards reinsurance business written from countries with strong experience of litigation and also for possible latent claim exposures.

8. The Signing Actuary shall ensure that the valuation methodologies are appropriate based on the nature of the claim and exposure information available. Whilst the Incurred Claim Development, Expected Loss Ratio and Incurred Bornheutter Ferguson methods are commonly used, methods based on paid claim data are often not reliable due to the volatility of the available information.

9. The Signing Actuary may find it more appropriate to carry out the valuation on an underwriting year basis as the reinsurance data is usually presented in this manner. In producing reserve estimates on an underwriting year basis, the Signing Actuary will need to determine the claim and premium liabilities separately and this is an issue for the latest underwriting year in particular. For this purpose an approach that the Signing Actuary may consider is as follows:

9.1 **Determination of claim liability**

(i) The Signing Actuary may conduct claim analysis by underwriting year and project the latest underwriting year's claims in full (ultimate claim cost), allowing for the estimated total written premium for each underwriting year, i.e. produce triangulations of claims and written premiums by underwriting year and develop all years to ultimate.

(ii) As the claim liabilities derived from such underwriting year analysis will include liabilities relating to both incurred outstanding claims and unexpired risks relating to unearned premiums (particularly for the most recent underwriting year where most of the unearned premium lies), the Signing Actuary should apportion the latest underwriting years' liabilities into earned and unearned components. The earned component may be determined by deducting the expected claim cost in respect of the unearned premium from the ultimate claim cost.

9.2 **Determination of premium liability**

(i) The premium liability should be derived based on the expected claim cost in respect of the unearned premium (as calculated in paragraph 9.1(ii) above) plus allowance for the reinsurer's expenses, including overheads and cost of reinsurance, expected to be incurred during the unexpired period in administering these policies and settling the relevant claims.

9.3 **Treatment of "unbooked" or "pipeline" premium**

(i) At the valuation date, there may exist outstanding premiums receivable by the reinsurer relating to completed underwriting years. The amount is usually most significant for the latest underwriting

year. Such outstanding premiums, often referred to as “unbooked” or “pipeline” premiums, can arise from a number of sources, including the periodic nature of the payment of premiums by each cedant, delays in payment of premiums by cedants and reinstatement premiums paid by cedants.

(ii) The Signing Actuary shall consider the impact of pipeline premiums at the valuation date on the valuation of liabilities and make appropriate adjustments. The Signing Actuary may use professional judgement to apportion the pipeline premium into earned and unearned components (coinciding with the outstanding claims and unexpired risk). He shall also allow for the reinsurer’s expenses and commission loadings with respect to the pipeline premium.

Appendix VI(c) Guidance Notes for the Presentation of the Valuation of Claim Liabilities

The valuation of Claim Liabilities (CL) as per Table 1 shall be computed as follows:

1. *Best estimate of CL for each class of business* [i.e. B(i), B(ii) and B(iii)] shall be calculated in accordance to section 4 of this Valuation Basis.

   Best estimate of the Fund Total's CL or B(F) is the sum of best estimate of the claims for each class of business.

   i.e B(F) = B(i) + B(ii) + B(iii).

2. *Provision of Risk Margin for Adverse Deviation (PRAD) of CL for each class of business* [i.e. PRAD(i), PRAD(ii) and PRAD(iii)] is calculated at 75% level of confidence.

   PRAD for the Fund Total's CL [i.e. PRAD(F)] is the sum of the PRAD of CL for each class of business.

   i.e PRAD(F) = PRAD(i) + PRAD(ii) + PRAD(iii).

3. *Fund PRAD (FPRAD) of Fund Total's CL* [i.e. FPRAD(F)] is derived from *Best estimate of the Fund Total's CL* to ensure 75% confidence level for the Fund Total, after considering diversification and other interactions between classes of business.

   FPRAD of CL for each class of business [i.e. FPRAD(i), FPRAD(ii) and FPRAD(iii)] is the value of FPRAD(F) allocated to each class of business. Allocation should be made in a consistent and logical manner while the value allocated should be more than zero.

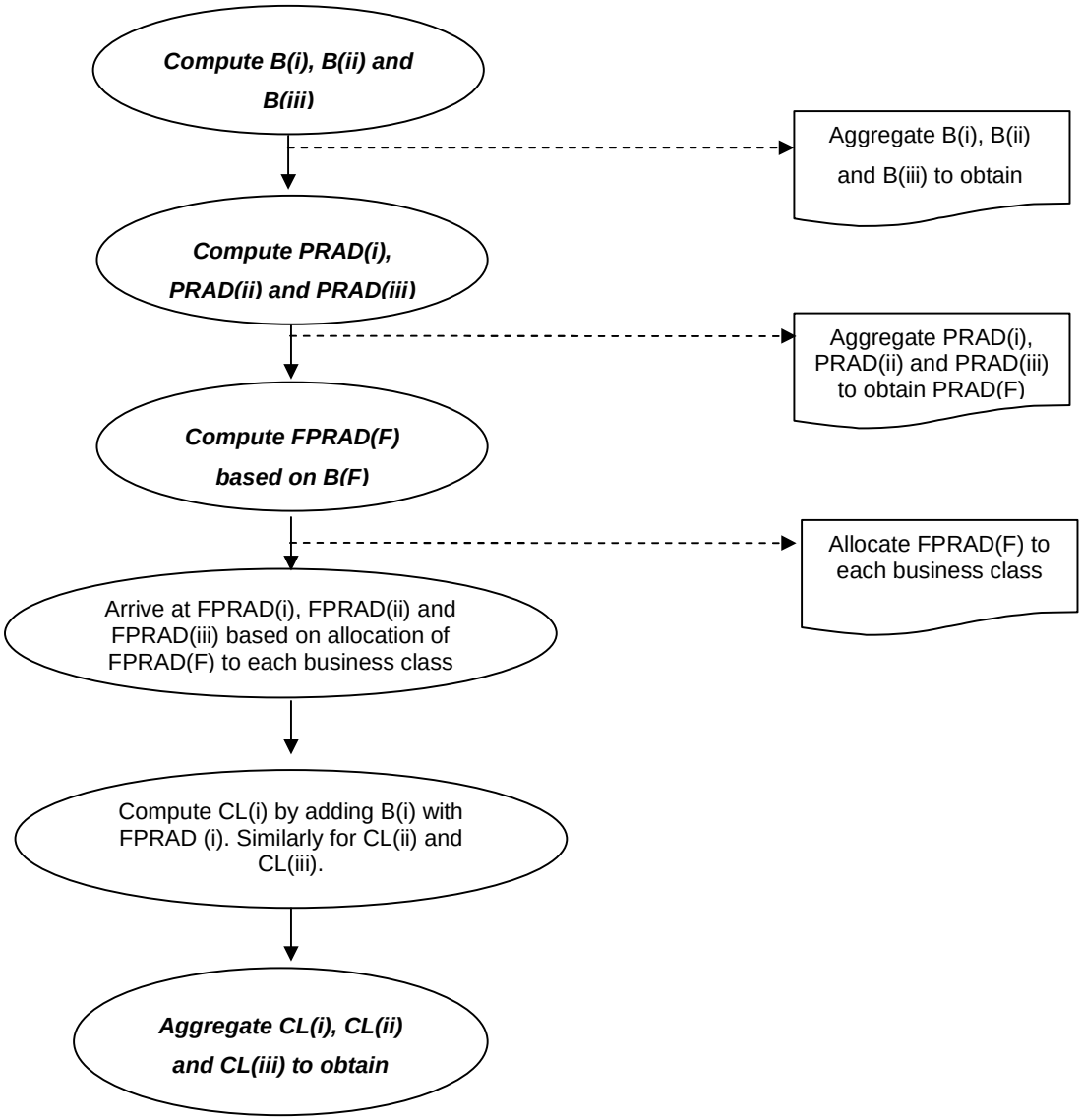
4. *CL for each business and the Fund Total* at the adopted confidence level are the summation of respective entries for columns (I) and (III)

   i.e. CL (i) = B(i) + FPRAD (i)
   CL (F) = B(F) + FPRAD (F)

Table 1: Claims Liabilities (CL)

Business class	**Best estimate of (CL)** **(I)**	**PRAD of CL at 75% confidence level** **(II)**	**Fund PRAD (FPRAD) of CL at 75% confidence level** **(III)**	**CL** **(IV) = (I) + (III)**
1.	B(i)	PRAD(i)	FPRAD (i)	CL(i) = B(i) + FPRAD (i)
2.	B(ii)	PRAD(ii)	FPRAD (ii)	CL(ii) = B(ii) + FPRAD (ii)
3.	B(iii)	PRAD(iii)	FPRAD (iii)	CL(iii) = B(iii) + FPRAD (iii)
Fund Total	B(F)	PRAD(F)	FPRAD (F)	CL(F) = B(F) + FPRAD(F)

Appendix VI(d) Workflow of the Computation of Table 1: Claims Liabilities



Appendix VI(e) Guidance Notes for the Presentation of the Valuation of Premium Liabilities

The valuation of Premium Liabilities (PL) as per Table 2 shall be computed as follows:

1. *Unearned Premium Reserve (UPR) for each class of business* amount [i.e. A(i), A(ii) and A(iii)] shall be calculated in accordance to the current requirements in section 5 in **Appendix VI** of this Valuation Basis.

   UPR for the Fund Total or A(F) is the sum of UPR for each business.
   i.e. A(F) = A(i) + A(ii) + A(iii)

2. *Best estimate of the Unexpired Risk Reserve (URR) of each class of business* [i.e. B(i), B(ii) and B(iii)] shall be computed based on the definition of section 6 in **Appendix VI** of the Valuation Basis.

   Best estimate of the Fund Total's URR or B(F) is the sum of best estimate of the URR for each business.
   i.e B(F) = B(i) + B(ii) + B(iii)

3. *Provision of Risk Margin for Adverse Deviation (PRAD) of URR for each class of business* [i.e. PRAD(i), PRAD(ii) and PRAD(iii)] is calculated at 75% level of confidence.

   PRAD for the Fund Total's URR [i.e. PRAD(F)] is the sum of PRAD of the URR for each class of business
   i.e PRAD(F) = PRAD(i) + PRAD(ii) + PRAD(iii).

4. *Fund PRAD (FPRAD) of URR of the Fund Total* [i.e. FPRAD(F)] is derived from *Best estimate of the Fund Total's URR* to ensure a 75% confidence level for the Fund Total after considering diversification and other interactions between classes.

   FPRAD of URR for each business [i.e. FPRAD(i), FPRAD(ii) and FPRAD(iii)] is the value of FPRAD(F) allocated to each class of business. Allocation should be made in a consistent and logical manner while the value allocated should be more than zero.

5. *URR* for each class of business and the Fund Total at the adopted confidence level are the summation of respective entries for columns (II) and (IV)

   i.e. URR for business class 1 = B(i) + FPRAD (i)
   URR for Fund total = B(F) + FPRAD(F)

6. *Premium liabilities for the Fund Total* or PL(F) is the higher of *UPR for Fund* and *URR at 75% confidence level for Fund Total*.
   i.e. Higher of A(F) and B(F) + FPRAD(F)

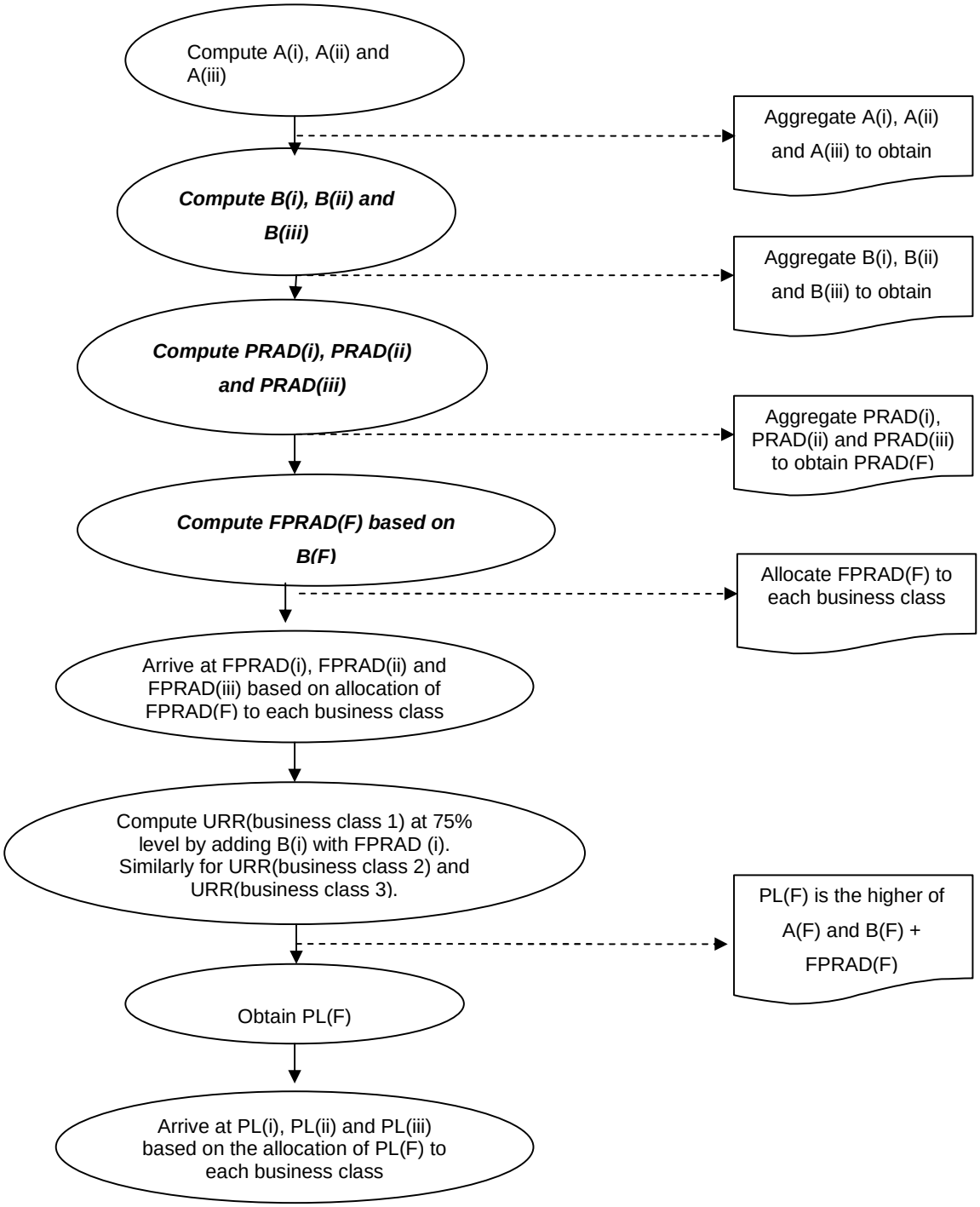
Premium liabilities for each class of business [i.e. PL(i), PL(ii) and PL(iii)] is the value of PL(F) allocated to each line of business. Allocation should be made in a consistent and logical manner while the value allocated to each class of business should not be less than the respective URR at the 75% confidence level.

Table 2: Premium Liabilities (PL)

Business class	**UPR** **(I)**	**Best estimate URR** **(II)**	**PRAD of URR at 75% confidence level** **(III)**	**Fund PRAD (FPRAD) of URR at 75% confidence level** **(IV)**	**URR at 75% confidence level *** **(V) = (II) + (IV)**	**PL**
1.	A(i)	B(i)	PRAD(i)	FPRAD (i)	B(i) + FPRAD (i)	PL(i)
2.	A(ii)	B(ii)	PRAD(ii)	FPRAD (ii)	B(ii) + FPRAD (ii)	PL(ii)
3.	A(iii)	B(iii)	PRAD(iii)	FPRAD (iii)	B(iii) + FPRAD (iii)	PL(iii)
Fund Total	A(F)	B(F)	PRAD(F)	FPRAD(F)	B(F) + FPRAD(F)	PL(F)*

*PL(F) refers to the higher of “A(F)” and “B(F) + FPRAD(F)”

Appendix VI(f) Workflow of the Computation of Table 2: Premium Liabilities



Appendix VI(g) Summary of Claims and Premium Liabilities

Table 3: Summary of Claims and Premium Liabilities

Line of Business	Premium-related liabilities			Claims-related liabilities		
	URR at 75% confidence level (a)	UPR (b)	PL (c)	Case Estimates (d)	IBNR (e) = (f)–(d)	CL at 75% confidence level (f)
1. Aviation						
2. Bonds						
3. Cargo						
4. Contractors' All Risks & Engineering						
5. Fire						
6. Liabilities						
7. Marine Hull						
8. Medical and Health						
9. Motor "Act"						
10. Motor "Others"						
11. Offshore Oil & Gas related						
12. Personal Accident						
13. Workmen's Compensation & Employers' Liability						
14. Others						

Appendix VII Valuation Basis for Life Insurance Liabilities

1. Introduction

1.1 An insurer shall value the liabilities of its life business at the end of each financial year in accordance to the Valuation Basis for Life Insurance Liabilities (Valuation Basis).

1.2 In the valuation of life insurance liabilities, an Appointed Actuary shall use the methods and valuation assumptions which:

(i) are appropriate to the business and risk profile of the life insurance business;
(ii) are consistent from year to year to preserve comparability;
(iii) include appropriate margins for adverse deviations in respect of the risks that arise under the insurance policy;
(iv) take into account its regulatory duty to treat policyholders fairly;
(v) are consistent with one another;
(vi) are in accordance with generally accepted actuarial best practice;
(vii) accord a level of guarantee for the reserve held against the liability in respect of guaranteed benefits which is no less certain than that accorded by a Malaysian Government Security (MGS);
(viii) are consistent with the principles of fair valuation where possible and appropriate; and
(ix) secure an overall level of sufficiency of policy reserves in respect of guaranteed benefits, at the 75% confidence level.

1.3 Where the Bank requires the insurer to determine the value of its insurance liabilities at any point in time other than at the end of its financial year, depending on the extent of the change in the insurer's business volume and profile, claims and underwriting process, and, policy and business conditions since the last

financial year, the Appointed Actuary may make adjustments to his last financial year end calculations or conduct a full revaluation of the insurance liabilities where appropriate, such that the value of the insurance liabilities is reflective of the insurer's profile at that point in time, and is consistent with the valuation result at the last financial year end.

1.4 In this Valuation Basis, unless the context otherwise requires,

(i) "life policy" means a policy by which payment of policy moneys is insured on death or survival, including extensions of cover for personal accident, disease or sickness and includes annuity but does not include a personal accident policy;

(ii) "non-participating life policy" means a life policy not conferring any right to share in the surplus of a life insurance fund;

(iii) "participating life policy" means a life policy conferring a right to share in the surplus of a life insurance fund; and

(iv) "annuity" means a right to a series of periodical payments at intervals of one year or less under a contract with a life insurer.

2. Valuation Methodology

2.1 The Appointed Actuary shall be responsible to determine the level of reserves based on his professional valuation of the insurer's life insurance liabilities for each fund using a basis no less stringent than that prescribed in the following paragraphs.

2.2 The life insurance liability shall be valued, where appropriate, using a prospective actuarial valuation based on the sum of the present value of future guaranteed and, in the case of a participating life policy, appropriate level of non-guaranteed benefits, and the expected future management and distribution expenses, **less**

the present value of future gross considerations arising from the policy discounted at the appropriate risk discount rate. For this purpose, the expected future cash flows shall be determined using best estimate assumptions, and with due regard to significant recent experience. An appropriate allowance for provision of risk margin for adverse deviation from expected experience is required in the valuation of non-participating life policies, the guaranteed benefits liabilities of participating life policies, and non-unit liabilities of investment-linked policies.

2.3 In the case of a life policy where a part of, or the whole of the premiums are accumulated in a fund, the reserves shall be the higher of the current accumulated amount, or the sum of the current accumulated amount and a reserve calculated in accordance to paragraph 2.2 on the net cash flows. These cashflows shall, where appropriate, be determined by considering the projected future values of the accumulated amount, at the relevant confidence level.

2.4 In the case of a life policy where the future premiums are indeterminate, the Appointed Actuary shall exercise his/her professional judgment and knowledge in arriving at the premium assumption, subject to the limitations specified in the policy design. In deriving the best estimate assumption, the Appointed Actuary shall take into account key considerations which would affect the size of future premium amounts, such as the purpose of the policy, as well as factors which have a bearing on premium persistency. The assumption should be derived based on historical data and expected future trends, where available. Notwithstanding that, the Appointed Actuary shall take into consideration future trends such as market and environmental changes, which may make historical experience less relevant. In addition, the Appointed Actuary shall examine the results of sensitivity testing to understand the materiality of making alternate assumptions. Where the results are highly sensitive to the assumed premium pattern, the Appointed Actuary shall exercise care and prudence in the choice of

assumption chosen. In the absence of relevant and fully credible empirical data, the Appointed Actuary shall set behaviour assumptions on the prudent end of the reasonable spectrum.

2.5 Where policies or extensions of a policy are collectively treated as an asset at the fund level under the valuation method adopted, the Appointed Actuary shall make the necessary adjustment to eliminate the asset value from the valuation.

2.6 Other actuarial valuation methods may be used (e.g. retrospective actuarial valuation) where such prospective method as per paragraph 2.1 above cannot be applied to a particular type of policy or provided that the resulting reserves would be no lower than would be required by a prospective actuarial valuation.

2.7 Where the liabilities in respect of more than one policy are to be valued on the minimum basis and it is necessary to have regard to the ages of persons on whose lives the policies were issued or to any periods of time connected with the policies, it shall not be necessary to value the policies based on the exact ages and periods (i.e. it shall be sufficient to use model points) so long as the liabilities determined by not valuing the policies individually are reasonably approximate to the liabilities determined by doing so. In such cases, goodness of fit tests shall be carried out to ensure the approximations are appropriate and will not lead to understatement of the insurance liabilities.

2.8 An Appointed Actuary shall adopt a more stringent basis of valuation of liabilities compared to the basis set out above, if, in his professional judgment, it is appropriate to do so.

2.9 Where a more stringent basis is used, the basis shall be applied consistently in subsequent valuations, and if the basis is relaxed at a future valuation, the fact shall be disclosed in the Appointed Actuary's report and with reasons for his action and the impact of the change on valuation liability.

2.10 Where a life policy cannot be appropriately valued using this Valuation Basis, the Appointed Actuary shall value the policy on a basis approved by the Bank.

3. Coverage

3.1 The liabilities in respect of the policies of *non-participating* and *participating* insurance funds shall be taken as the sum of the liability as determined under paragraph 2.1 above.

3.2 The liability in respect of policies of a participating insurance fund shall be taken as the higher of the guaranteed benefits liabilities or the total benefits liabilities, derived at the fund level, where:

(i) under the guaranteed benefits liabilities, only the guaranteed benefits (including proposed bonuses) are considered, by discounting all cash flows at the risk-free discount rate as described in paragraph 5.2; and

(ii) under the total benefits liabilities, total guaranteed and non-guaranteed benefits are considered, by discounting all cash flows at the fund-based yield of the participating fund, as described in paragraph 5.3.

3.3 The valuation of the non-unit liability shall be conducted for each investment-linked policy by a cash flow projection. The liability in respect of the non-unit component of an investment-linked policy is valued by projecting future cash flows to ensure that all future outflows can be met without recourse to additional

finance or capital support at any future time during the duration of the investment-linked policy. The cash flow projection shall be conducted using a basis no more favourable than the requirement stipulated in paragraph 2.1 above.

3.4 In the cash flow projection, where an inflow (for e.g. the fund management charge) is dependent on the growth of the unit fund, such inflow shall be determined by adjusting the unit fund growth rate assumption, to be consistent with the requirement for provision of risk margin for adverse deviation in paragraph 6.1.

3.5 All options and guarantees offered under a life policy shall be explicitly identified and the liability of a life policy shall correspondingly include an amount to cover any increase in liabilities which may result from the exercise of the said options and/or guarantees in the future. For example, for investment linked products with investment guarantee features where the guarantee is provided for directly by the insurer, for example by holding a combination of investment instruments, the reserves for such guarantees shall be calculated using a stochastic method to ensure sufficiency of reserves at the 75% confidence level. For insurers writing only a small portfolio[57] of these products and/or where the guarantee features are simple and short term in nature[58], a deterministic method may be allowed. In any case, the method must allow for appropriate decrements and all risks (including market risk and credit risk) that will impact the fund asset performance. Where investment guarantees are met by buying a structured product from third party financial institutions or fund managers, the reserves for such guarantees shall be based on the credit rating of the third party guarantee provider.

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57 Where the portfolio forms an insignificant proportion of the insurers' business and does not justify the cost of adopting a stochastic method.

58 Where the result of a deterministic method would not materially depart from that which would have been obtained from a stochastic model in the opinion of the Appointed Actuary,

3.6 The principle and methods described in paragraph 3.5 shall also apply to products with crediting rates which are based on external variables or which are not perfectly matched to the investment returns of the underlying assets. The Appointed Actuary shall test the future expected returns of the underlying assets against the future expected crediting rates, and establish any additional reserves as may be required to ensure sufficiency at the 75% confidence level.

3.7 An extension to a life policy covering contingency of death, survival or critical illness shall be valued in accordance to paragraph 2.1 above. For a 1-year life policy or a 1-year extension to a life policy covering –

(i) death or survival contingencies, the liabilities shall be valued in accordance to the unexpired risk basis, a prospective estimate of the expected future payments arising from future payments arising from future events insured under policies in force as at the valuation date and also includes allowance for the insurer's expenses, including overheads, claims related expenses and cost of reinsurance, expected to be incurred during the unexpired period in administering these policies and settling the relevant claims, and shall allow for expected future premium refunds.; and

(i) contingencies other than death or survival, the premium and claim liabilities shall be valued separately in accordance to **Appendix VI**.

3.8 The Appointed Actuary shall consider the following events appropriately in determining the reserves as per paragraph 2.1 above. An appropriate reserve with the basis stated in respect of the following shall be considered for:

(i) an immediate payment of claims;

(ii) future expenses and bonuses in the case of limited payment of policies and paid-up policies;

(iii) contingent liabilities which exist or may arise in respect of policies which have lapsed and not included in the valuation;

(iv) payment of benefits or waiver of premiums upon disability of the life insured;

(v) provision of benefits or waiver of premiums upon occurrence of the life insured's disability in the future unless, in the Appointed Actuary's judgment, such specific provision is not necessary;

(vi) a policy insuring a substandard risk or high risk occupation; and

(vii) any other liability, or contingent liability, under life policies or extensions of life policies not covered by 3.8(i) to 3.8(vi) above, including extensions of life policies, other than those referred to in paragraph 3.7 above.

4. Data and Systems

4.1 The CEO is responsible to ensure that the life insurer's database is properly maintained so that the data on business in force provided to the Appointed Actuary is accurate and complete[59]. The CEO shall allow its Appointed Actuary unrestricted access to its database and shall furnish the Appointed Actuary immediately, upon request, such data and explanation as he may require.

4.2 The Appointed Actuary shall apply reasonable tests to satisfy himself that the data on business in force is accurate and complete. A check for both integrity and completeness of data should precede the valuation work.

5. Valuation Assumptions

(I) Discount Rates

5.1 The risk-free discount rate shall be used for all cash flows to determine the liability of a non-participating life policy, the guaranteed benefits liability of a participating policy, and the non-unit liability of an investment-linked policy

59 Insurers should refer to the Guidelines on Data Management and Management Information System (MIS) Framework.

5.2 The risk-free discount rate shall be derived from a yield curve, as follows:

(i) for durations of less than 15 years : zero-coupon spot yield of MGS with matching duration; and

(ii) for durations of 15 years or more : zero-coupon spot yield of MGS with 15 years term to maturity,

where duration is the term to maturity of each future cash flow.

5.3 In the case of the total benefits liabilities of participating policies, the Appointed Actuary shall determine a suitable discount rate based on the historical yield and future investment outlook of the participating fund, net of tax on investment income of the life fund. The Appointed Actuary shall ensure appropriate reliance on the data and analysis used to derive the discount rate, and make appropriate allowance for the uncertainty of future yield assumptions in the longer term. In any case, justification should be provided in the accompanying actuarial report, if the selected discount rates differ from the average of the last five years' net investment returns on the participating fund, as reported in the insurer's Financial Condition Report.

5.4 The MGS zero-coupon spot yields shall be obtained from a recognised bond pricing agency in Malaysia, or any other source as may be specified by the Bank. Where yields at certain durations are not available, these yields shall be appropriately interpolated from the observable data.

(II) Non-guaranteed Benefits

5.5 The level of discretionary benefits to be valued shall be determined in a manner consistent with the fund-based yield selected as the discount rate, sales practices and illustrations and with due regard to the insurer's regulatory duty to treat its policyholders fairly and meeting policyholders' reasonable expectations. For a participating life policy sold on or after 1 July 2005, the level of discretionary benefits assumed, including vesting terminal bonus, shall be based on the bonus

scale as supportable by the most recent asset share study or any prevailing regulatory requirement as at the valuation date.

(III) Expenses

5.6 The expense assumptions shall include distribution expenses and management expenses. Distribution expenses shall be allowed for based on the actual costs incurred. Management expenses shall be based on recent expense analysis and with due regard to likely improvement or deterioration in the future.

5.7 Where it is expected that future expenses may increase materially, suitable expense inflation with reference to available information on historical data and estimates of future wage and price inflation shall be factored in as appropriate. The expense inflation assumption shall be made consistent with the valuation discount rates assumption. All projected expected expenses shall be recognised in the valuation.

(IV) Mortality and Morbidity

5.8 The mortality and morbidity assumptions shall be based on rates of mortality and morbidity that are appropriate to the person whose life or health is insured as well as the nature of the cover based on the company's actual experience. Appropriate industry data may be used with due regard to credibility, availability and reliability of such information if in the judgment of the Appointed Actuary, the company's actual experience is inappropriate to be used in its entirety. The justifications for any such weights used shall be disclosed.

5.9 In the valuation of annuity contracts, any mortality improvement factor shall be explicitly considered.

(V) Persistency

5.10 The persistency rates reflective of actual trends shall be taken as the best estimate persistency assumption, with due regard to changing company practices and market conditions.

5.11 The possibility of anti-selection by policyholders and variations in persistency experience for different cohorts of policyholders in respect of non-guaranteed benefits (for e.g. effect of premium increase for guaranteed renewable products) shall be allowed for. Policyholders' behaviour due to specific features of the product or market condition shall be taken into consideration explicitly in determining the appropriate persistency assumption.

6. Provision of Risk Margin for Adverse Deviation (PRAD)

6.1 The PRAD shall be determined by adjusting the valuation assumptions coherently, without necessarily setting all parameters to be at the 75% confidence level, but such that the overall valuation of guaranteed liabilities secures 75% sufficiency.

7. Transition to the New Valuation Basis

7.1 The old valuation basis that shall apply prior to the effective date, is the net premium valuation method, where the policy liability shall be equal to the present value of future guaranteed benefits and vested bonuses less the present value of future net premiums payable.

7.2 For a whole life policy or endowment policy, with or without other benefits, or for a term policy where a surrender value is required to be paid, the premium in paragraph 7.1 may be adjusted to the lower of the full preliminary term premium, or the premium with zillmer adjustment at 3% of the sum insured.

7.3 The old valuation basis shall be applied using the following mortality assumptions—

(i) the Valuation Mortality Table 1996 for male lives;

(ii) the Valuation Mortality Table 1996 rated down 3 years for female lives;

(iii) a(90)m annuitants mortality table rated down 2 years for annuities on male lives; and

(iv) a(90)f annuitants mortality table rated down 2 years for annuities on female lives;

and the following rates of interest—

(i) 5 per cent per annum for annuities;

(ii) 4.5 per cent per annum for single premium policies; and

(iii) 4 per cent per annum for other policies.

7.4 Notwithstanding paragraphs 7.1 to 7.3 the Appointed Actuary shall derive the policy liabilities on the new Valuation Basis for the purposes of computing the relevant components of TCA and TCR in the solvency computation.

8. Reinsurance

8.1 The liabilities of the life business of a life insurer shall be valued on gross basis, and deducting reinsurance cessions only if:

(i) the reinsurance arrangement involves a transfer of risk;

(ii) there is no obligation on the part of the life insurer to repay any amount, other than the refund of deposit referred to below in (iv), to the reinsurer in the event a policy lapses or the life insurer cancels the reinsurance contract;

(iii) the valuation of liability reinsured is made in accordance to paragraph 2.1 above; and

(iv) the life insurer holds a deposit from reinsurer, other than a life reinsurer licensed under the Act, or a qualifying reinsurer, subject to the condition

that any release of deposit shall not exceed the reduction of liability of the reinsurer.

8.2 For the purpose of paragraph 8.1(iv), a qualifying reinsurer refers to a (re)insurer which is licensed under the Labuan Financial Services and Securities Act 2010[60] and satisfies the following conditions:

(a) the reinsurer carries a financial strength rating of category three or better[61]; or

(b) (i) the (re)insurer has obtained an explicit and irrevocable guarantee[62] from its parent company (or head office[63]) to fully support the (re)insurer in the event of financial difficulties; and

(ii) its parent company (or head office) is licensed under the Act or carries a financial strength rating of category three or better[62]. For the purpose of meeting the rating requirement, the rating of subordinated debt issued by the parent company (or head office) that is rated with rating of category three or better[62] may be accepted.

8.3 A deduction for reinsurance calculated in accordance with paragraph 8.1 above may be made, if paragraph 8.1 (i), (ii) and (iv) are complied with, to the extent of the net amount determined by deducting the amount repayable on the cancellation of the contract on the valuation date from the valuation of the credit for reinsurance.

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60 Administered by the Labuan Financial Services Authority.

61 Under paragraph 1 of **Appendix X**.

62 The guarantee should at least:

(i) Cover all reinsurance arrangements between the reinsurer and any Malaysian entities licensed under the Insurance Act 1996;

(ii) Cover the amount of the reinsurer's liabilities to Malaysian entities arising from the reinsurance arrangements referred to in (i) above in its entirety (including reinsurance recoveries or other liabilities as agreed upon in the reinsurance transactions);

(iii) Be in place for the entire duration the reinsurer is exposed to the risk of the arrangements;and

(iv) Be irrevocable, subject to the validity of the reinsurance claims, and the reinsurer shall not unilaterally cancel the guarantee under any circumstances, as long as the arrangement in (i) above still exposes the reinsurer to the risk of claims.

63 For branches of reinsurers, the head office shall provide an irrevocable and explicit undertaking to immediately transfer funds in the event (or expected) of depletion of the working capital or in the event of a large loss being intimated.

8.4 The amount of deduction which can be made under paragraphs 8.1 and 8.3 above shall not exceed the amount of deposit held, where required on the date of valuation in respect of the corresponding reinsurance.

9. Business outside Malaysia

9.1 The valuation of liabilities in respect of life policies for business outside Malaysia shall be conducted on a basis not less stringent than the basis required by the laws of the country in which the policy is issued but not less stringent than the basis in this Valuation Basis and in the absence of any basis specified by the laws of that country, the policies shall be valued in accordance to this Valuation Basis.

10. Foreign Currency-Denominated Policies

10.1 Foreign currency-denominated policies shall be valued as per this Valuation Basis, except for the provisions of paragraph 5.1, where the MGS shall be replaced by an appropriate risk-free security that is consistent with the currency the policy is denominated in, such as government securities of the relevant country.

11. Withdrawal of Policy

11.1 Where a life policy belonging to an insurance fund of a life insurer is removed from the insurance fund under section 39 of the Act, the amount that the life insurer may withdraw from the insurance fund in respect of that policy shall not exceed the amount of reserve as at the date of removal for that policy valued on the basis applicable immediately preceding the date of removal.

12. Actuarial Valuation Report

12.1 The Appointed Actuary shall prepare the Actuarial Valuation of Life Insurance Liabilities Report (the Report) which contains at least the information as required in **Appendix VII(a).**

Appendix VII(a) Report on Actuarial Valuation of Life Insurance Liabilities for the year ended dd/mm/yyyy

Name of Insurer/Reinsurer : _____
Name of Appointed Actuary : _____
Qualifications : _____

Section A : Data

1. Describe:
   - the steps taken to verify consistency, completeness and accuracy of data
   - any adjustments made to the data and rationale
   - the steps taken to ensure accuracy of valuation system

2. If data is grouped, state the principles used or where interpolation is resorted to, the formula used. Details of goodness of fit tests should be provided.

Section B : Valuation Methodology

1. Valuation of best estimate :
   - Describe the valuation methods for estimating the best estimate reserves
   - If a non prescribed method has been used, provide a detailed description of how the method works
   - Disclose any approximation or simplification made
   - Describe the methods by which provision has been made in respect of life policies or extension of life policies as described under paragraphs 3.7 and 3.8 of the Valuation Basis
   - Describe any policy or extension of a policy that would be treated as an asset at the fund level and what steps have been taken to eliminate such asset from the valuation
   - Provide details of any changes to the valuation methods used since the last valuation

2. Valuation of Provision of Risk Margin for Adverse Deviation (PRAD) :
   - Describe the methods for the derivation of the PRAD for the relevant valuation parameter
   - Describe the methods for the derivation of PRAD to ensure that the overall valuation of guaranteed liabilities secures a 75% confidence level

3. Presentation of the Valuation :
   - Summarise the results of the valuation in accordance to **Appendix VII(a)(i)**
   - Comment on the level of sufficiency of the reserves

Section C : Valuation Assumptions

1. State and provide justification for the key assumptions.

2. Describe the bonus policy of the insurer which formed the basis of valuation of non-guaranteed benefits, including conditions for bonus to be allocated and/or vested.

3. Disclose and justify any material change in assumption from the previous valuation and quantify the financial impact of such change.

4. Provide analysis of assumptions used in the previous valuation against the actual experience emerging during the year and where material differences are observed, to justify the differences and explain how these are reflected in the current valuation assumptions

Section D : Surrender and Paid-up Value Basis

1. Describe the basis to determine the minimum guaranteed surrender value and paid-up value.

Section E : Others

1. Document the extent of compliance to the requirements of the Valuation Basis and the reasons for non-compliance, if any.

2. Define terms and expressions used in the Report which may be ambiguous or subject to wide interpretation.

3. Describe the structure of reinsurance arrangements, the affected blocks of businesses and share of participating reinsurers from which reinsurance credit was taken in computing the reserves.

4. The Appointed Actuary shall comment on the results of the valuation vis-à-vis the capital requirements, the maintenance, decrease or increase in bonus rates, any significant changes in composition of business, any change in valuation methodology and any issues highlighted by the analysis of surplus (in the format as prescribed in **Appendix VII(a)(ii)**).

Section F : Supporting Worksheets and Appendices

1. The Appointed Actuary shall include a detailed summary of all the data and other information used to conduct the valuation, including information on number of policies, sum insured, bonus and premiums.

2. The following valuation tables shall be attached:
   - risk discount rates (MGS and fund-based yields)
   - mortality/morbidity and other risk rates; and
   - persistency rates

3. Specimens of current supportable bonus scales and minimum guaranteed surrender values of policies for RM1,000, effect at each of the ages 5, 10, 20, 30 and 40 and having been in force for 5, 10, 15, 20, 30 and 40 years.

4. The workings of each valuation methodology should be sufficiently transparent to enable another Appointed Actuary to review the adopted methodology.

Section G : Certification by Appointed Actuary

The Appointed Actuary should provide a certification as set out below:

I hereby certify that :

1. I have applied such tests as I consider reasonable to satisfy myself about the accuracy and completeness of the database on business in force used in my valuation;
2. I have valued the liabilities in compliance with the guidelines and code of practice issued by Bank Negara Malaysia to the extent they are applicable to the valuation; and
3. I have valued the liabilities in respect of products for which the basis of valuation is not prescribed, on a basis, which I consider appropriate and adequate.

Signature : _____

Name : _____

Date : _____

Appointed Actuary

Section H : Certification by the CEO

The CEO should provide the following certification:

I hereby certify that the database is properly maintained and I have satisfied myself that the data provided to the Appointed Actuary is accurate and complete.

Signature : _____

Name : _____

Date : _____

Chief Executive Officer

Appendix VII(a)(i) Summary of Valuation Result

Form E:

Life Insurance Liabilities

		Participating ordinary life fund	Non-participating ordinary life fund	Participating annuity fund	Non-participating annuity fund	Investment linked operating/non-unit fund
(a)	Best estimates					
(b)	PRAD					
(c)	Gross reserves before zeroisation [(a) + (b)]					
(d)	Negative reserves (absolute value)					
(e)	Gross reserves after zeroisation [(c) + (d)]					
(f)	Amount of reserves ceded to reinsurers					
(g)	Net liabilities [(e) - (f)]					
	Comparison of Par valuation bases					
	Net liabilities on Total Benefit basis					
	Net liabilities on Guaranteed Benefit basis (incl PRAD)					
	Future bonuses					

Abridged Version of Forms E2 and E2-1 (Product Wise Details for FYE only):

Life insurance fund: Composition of Valuation Liabilities and Risk Capital Charges

No.	Description	Particulars of policies									Expected Present Value Statistics								Reinsurance		Net Liability	Life Insurance Risk Capital Charge
		No. of policies		No. of lives covered		Sum assured		Vested Bonus	Annual Office Premium	Surrender Value	Benefits	Expenses	Premiums	Best Estimate Reserves	PRAD	Gross Reserves Before Zeroisation	Negative Reserves (Absolute Value)	Gross Reserves After Zeroisation	Amount of Reserve Ceded	Deposit Retained		
		S	A	S	A	S	A															
ORDINARY LIFE/INVESTMENT LINKED																						
(i)	Whole Life																					
(ii)	Endowment																					
(iii)	Term - Mortgage																					
(iv)	Term - Others																					
(v)	M&H Term </= 12 months																					
(vi)	M&H Term > 12 months																					
(vii)	Riders- Term Insurance </= 12 months																					
(viii)	Riders - Term Insurance > 12 months																					
(ix)	Riders - PA/Disability Term </= 12 months																					
(x)	Riders - PA/Disability Term > 12 months																					
(xi)	Riders - M&H Term </= 12 months																					
(xii)	Riders - M&H Term > 12 months																					
(xiii)	Riders - DD Term </= 12 months																					
(xiv)	Riders - DD Term > 12 months																					
(xv)	Riders - Others Term </= 12 months																					
(xvi)	Riders - Others Term > 12 months																					
(xvii)	Other plans Term </= 12 months																					
(xviii)	Other plans Term > 12 months																					
(xix)	Other provisions																					
Annuities																						
(i)	Immediate annuities																					
(ii)	Deferred annuities																					
(iii)	Other Provisions																					

Appendix VII(a)(ii) Valuation Result, Composition and Distribution of Surplus

Form E3:

Valuation Result, Allocation and Movement of Surplus

			Participating ordinary life fund	Non-participating ordinary life fund	Participating annuity fund	Non-participating annuity fund	Investment linked operating/non-unit fund	Total
A	**Valuation Result**							
	1	Policyholders' fund carried forward[1]						
	2	Net liabilities under policies[2]						
	3	Surplus/Deficit [A(1) - A(2)][3]						
B	**Allocation to Policyholders and Shareholders' Fund**							
	1	Allocation to policyholders:						
		a) Interim Bonus[4]						
		b) Cash Bonus[4]						
		c) Reversionary Bonus[4]						
		d) Terminal Bonus[4]						
	2	Allocation to shareholders' fund[4]						
	3	Total allocation to policyholders and shareholders for the year [B(1) + B(2)]						
C	**Movement of Surplus**							
	1	Unappropriated surplus brought forward						
	2	Amount transferred from shareholders' fund						
	3	Total Surplus Arising during the year [A(3) - C(1) - C(2)]						
	4	Amount transferred to shareholders' fund						
	5	Amount transferred to any fund or reserves[4]						
	6	Unappropriated surplus carried forward [C(1) + C(2) + C(3) – C(4) – C(5)]						

1 Before allocation of S/H and/or Other Fund

2 Shall include Cost of Proposed Bonus to policyholders (for Cash Bonus, Reversionary Bonus & Terminal Bonus if applicable) if the Net Liabilities are determined using the Guaranteed Benefit Liabilities basis as per **Appendix VII** of the RBC Framework.

3 For allocation to Shareholders, Other Fund and/or Carried Forward

4 Financial Year End (FYE) submission only

Form E3-1:

Source of Surplus Arising

			Investment	Insurance	Expense	Lapse	Change in valuation basis	New Business	Others	Total
Ordinary Life										
	Participating									
		Actual								
		Expected								
		Actual less Expected								
	Non Participating									
		Actual								
		Expected								
		Actual less Expected								
Annuities										
	Participating									
		Actual								
		Expected								
		Actual less Expected								
	Non Participating									
		Actual								
		Expected								
		Actual less Expected								
Investment Linked										
		Actual								
		Expected								
		Actual less Expected								
Total										
		Actual								
		Expected								
		Actual less Expected								

Appendix VIII [Deleted]

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Appendix IX Appointed Actuary and Signing Actuary

1. Introduction

1.1 In order to ensure that the value of insurance liabilities and the various components of the solvency computation are determined in accordance with the standards set out in this Framework, insurers are required to appoint a suitably qualified actuary to perform the required computations.

1.2 Pursuant to section 83 of the Act, a life insurer shall seek the Bank's approval to appoint an Appointed Actuary, by application in writing, at least one month before the end of each financial year.

1.3 A general insurer shall seek the Bank's approval to appoint a Signing Actuary, by application in writing, at least one month before the end of each financial year.

1.4 A composite insurer is required to make separate applications to appoint its Appointed Actuary and Signing Actuary, even if the two positions are to be held by the same person.

2. Appointed Actuaries

2.1 A life or composite insurer shall ensure that its applicant fulfils all requirements related to the appointment of Appointed Actuaries, such as those contained in

section 83 of the Act, guidelines[68], circulars[69], and any other requirements as specified by the Bank.

3. Signing Actuaries

3.1 A general or composite insurer shall ensure that its applicant fulfils the following criteria :

(i) holds a Fellowship in either the Institute or Faculty of Actuaries in the United Kingdom, Casualty Actuarial Society in the United States of America, or the Institute of Actuaries in Australia;

(ii) is resident in Malaysia; and

(iii) is fit and proper to carry out the function and has relevant and appropriate general insurance experience.

3.2 Notwithstanding paragraph 3.1, upon written application from an insurer, the Bank may, at its sole discretion, waive one or more of the above criteria to approve an otherwise qualified actuary as the Signing Actuary.

3.3 A Signing Actuary shall cease to be the Signing Actuary of an insurer if he resigns or has his appointment terminated by the insurer or by the Bank.

3.4 Where a person ceases to be the Signing Actuary of a general or composite insurer, the insurer shall notify the Bank in writing of the cessation and the reasons for it within 14 days from the date of cessation, and shall appoint

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68 JPI/GPI 10 : Guidelines on the Role of the Appointed Actuary.

69 JPI 8/2006 : Expansion of Existing Criteria for the Appointment of Appointed Actuaries and
JPI 12/2006: Appointment of Appointed Actuaries into Additional Capacities and Termination of the Appointment of Appointed Actuaries.

another person as its Signing Actuary in accordance with this Appendix, within such time as the Bank may approve.

3.5 The requirements of sections 86, for the insurer to furnish information to the Appointed Actuary, and section 101 of the Act in relation to the examination of the Appointed Actuary, shall apply equally to Signing Actuaries.

Appendix X Rating Categories and Risk Charges

1. The rating categories below apply to both issuer and issue-specific ratings.

Rating Category	S&P	Moody's	Fitch	R&I	AM Best	RAM	MARC	Risk Charge
(i) One	AAA	Aaa	AAA	AAA	AAA	AAA	AAA	1.6%
(ii) Two	AA+ to AA-	Aa1 to Aa3	AA+ to AA-	AA+ to AA-	AA+ to AA-	AA1 to AA3	AA+ to AA-	2.8%
(iii) Three	A+ to A-	A1 to A3	A+ to A-	A+ to A-	A+ to A-	A1 to A3	A+ to A-	4%
(iv) Four	BBB+ to BBB-	Baa1 to Baa3	BBB+ to BBB-	BBB+ to BBB-	BBB+ to BBB-	BBB1 to BBB3	BBB+ to BBB-	6%
(v) Five	BB+ to D or unrated	Ba1 to C or unrated	BB+ to D or unrated	BB+ to D or unrated	BB+ to D	BB1 to D or unrated	BB+ to D or unrated	12%

2. Debt facilities with original maturity of 1 year or less.

Rating Category	S&P	Moody's	Fitch	R&I	AM Best	RAM	MARC	Risk Charge
(i) One	A-1	P-1	F1+, F1	a-1+, a-1	AMB-1+,AMB-1	P-1	MARC-1	1.6%
(ii) Two	A-2	P-2	F2	a-2	AMB-2	P-2	MARC-2	4%
(iii) Three	A-3	P-3	F3	a-3	AMB-3	P-3	MARC-3	8%
(iv) Four	Others	Others	B to D	b, c	AMB-4, d	NP, D	MARC-4	12%