GUIDELINES ON VALUATION BASIS FOR LIABILITIES OF

LABUAN LIFE INSURANCE BUSINESS

1.0 Introduction

1.1 The 'Guidelines on Valuation Basis for Liabilities of Labuan Life Insurance Business' (the Guidelines) sets out prudential requirements that should be observed by Labuan (re)insurers in valuing liabilities of their life insurance business. The aim is to ensure those liabilities are reserved at a specified level of adequacy with explicit prudential margins.

2.0 Applicability

2.1 The Guidelines is applicable to all Labuan insurers underwriting life insurance business licensed under Part VII of the Labuan Financial Services and Securities Act 2010 (LFSSA) excluding Labuan captive insurance business.

2.2 For the purpose of the Guidelines, the term 'Labuan insurer' includes Labuan reinsurer underwriting life reinsurance business, unless otherwise specified.

2.3 With the implementation of the Guidelines pursuant to paragraph 4.1, the Clarification Note for Guidelines on Valuation Basis for Liabilities of Labuan General and Life Insurance Business dated 16 December 2016 shall be superseded.

3.0 Legal Provision

3.1 The Guidelines is issued pursuant to Section 4A of the Labuan Financial Services Authority Act 1996 (LFSAA) for the purpose of clarifying the requirements on appointment of actuary and margin of solvency for Labuan insurers under Section 108 and Section 109 of the LFSSA respectively.

3.2 Any person who fails to comply with the Guidelines may be subject to an administrative penalty under Section 36B and Section 36G of the LFSAA or Section 187 and Section 194 of the LFSSA and/or other enforcement actions provided under the LFSAA and the LFSSA.

4.0 Effective Date

4.1 The Guidelines shall come into effect from financial year beginning on and after 1 January 2023; and would remain effective as well as applicable unless amended or revoked.

5.0 Principles

5.1 The principles and methods adopted by the Labuan insurer to value the liabilities of life insurance business shall:

(i) be appropriate to the business and risk profile of the life insurance business;

(ii) be 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) be consistent with one another;

(v) take into account Labuan insurer's fiduciary duty to treat policyholders or clients fairly;

(vi) be in accordance with generally accepted actuarial principles;

(vii) are consistent with the principles of fair valuation where possible and appropriate; and

(viii) secure an overall level of sufficiency of the reserves at 75% confidence level. The Labuan insurer may choose to maintain reserves at a higher level where additional margins are needed to ensure their adequacy.

5.2 Where Labuan FSA requires the Labuan 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 secures an overall level of sufficiency of policy reserves at the 75% confidence level.

6.0 Definitions

6.1 In the Guidelines, unless the context otherwise requires, the term used are defined as follows:

(i) The '**best estimate**' value is the statistical central estimate value of the liabilities concerned. The principles for determining the best estimate values are subject to considerations of their materiality and the professional judgement of the Appointed Actuary, and shall reflect the individual circumstances of the Labuan insurer, for each class of business;

(ii) The '**provision of adverse deviation (PAD)**' is the component of the value of the insurance liabilities that relates to the uncertainty inherent in the best estimate. PAD is aimed at ensuring that the value of 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;

(iii) **Life policy** means insurance business connected with any policy by which payment of policy monies is insured on death or on the happening of any contingency dependent on the termination or continuation of human life and includes any incidental extension of cover (e.g. personal accident, disease and sickness) and reinsurances of such business;

(iv) **Non-participating life policy** means a life policy not conferring any right to share in the surplus of a life insurance fund; and

(v) **Participating life policy** means a life policy conferring a right to share in the surplus of a life insurance fund.

7.0 Appointed Actuary Requirements

Appointment and Cessation

7.1 Every Labuan insurer must appoint an Appointed Actuary where the responsibility of appointing the Appointed Actuary lies with the board of directors (Board)[1]. In carrying out this responsibility, the Board must ensure that the appointment of the Appointed Actuary is in accordance with the requirements set out in the Guidelines.

7.2 A Labuan insurer must ensure that a person being considered as a candidate for the Appointed Actuary fulfils the following:

(i) The candidate is a Fellow of either:

(a) the Institute and Faculty of Actuaries of the United Kingdom;

(b) the Institute of Actuaries of Australia;

(c) the Canadian Institute of Actuaries;

(d) the Society of Actuaries of the United States of America;

(e) the Society of Actuaries in Ireland;

(f) the China Association of Actuaries[2]; or

(g) such other associations as may be approved by Labuan FSA.

[1] For the purpose of the Guidelines, in relation to a Labuan insurer of a branch status; the Board shall refer to the parent company, regional office or head office overseeing the management of the branch Labuan insurer.

[2] Subject to completion of technical subjects relating to the life insurance liabilities or reserving as required under any of the actuarial professional bodies under paragraph 7.2(i) (a) to (d).

(ii) The candidate possesses at least three (3) years of relevant post qualification practical experience as a Fellow of one of the respective professional bodies highlighted in paragraph 7.2(i);

(iii) The candidate meets the relevant continued professional development requirements; and

(iv) The candidate has been assessed by the Board to have met the fit and proper requirements outlined in the Guidelines on Fit and Proper Person Requirements as issued by Labuan FSA.

7.3 The Labuan insurer when carrying out the assessment on the suitability of the candidate must be satisfied, based on a reasonably robust assessment process, that the candidate has:

(i) adequate technical experience (which includes the use of relevant analytics) and has had key responsibilities in performing valuations of actuarial liabilities for life insurance business;

(ii) continuously be informed on emerging developments in insurance business and actuarial practice which are relevant to the duties of an Appointed Actuary;

(iii) adequate experience in engaging with members of the Board and senior management, in particular the ability to communicate and contextualise the results of technical actuarial assessments in a clear and comprehensible manner to key stakeholders who may not have an actuarial background;

(iv) a good professional track record;

(v) not been the subject of findings of a material contravention of the standards of any actuarial professional body or any law or regulation relating to actuarial conduct; and

(vi) no conflict of interest that would impair his ability to effectively discharge his duties as an Appointed Actuary. The candidate with multiple statutory appointments i.e. part of the group actuarial resources, must disclose any potential conflict of interest to the Board prior to the appointment. The Appointed Actuary must exercise professional accountability and impartiality in providing the actuarial services to the Labuan insurer at all times.

7.4 A Labuan insurer must notify Labuan FSA in writing of the appointment of the Appointed Actuary no later than ten (10) working days from the date of appointment. Similarly, the Labuan insurer shall also notify Labuan FSA in writing of the cessation of its Appointed Actuary and the reasons for it no later than ten (10) working days from the date of the Labuan insurer giving to or receiving from, the Appointed Actuary notice of cessation.

7.5 The Labuan insurer must appoint another person as its Appointed Actuary no later than three (3) months from the effective date of the cessation and notify Labuan FSA in writing no later than ten (10) working days from the date of appointment.

7.6 Where the Labuan insurer utilises its group actuarial resources including those with multiple statutory appointments or outsources to the third party actuarial function, the Appointed Actuary shall maintain professional accountability and impartiality needed in providing his actuarial services to the Labuan insurer. The outsourcing of actuarial function to third party would be subject to the prior approval of Labuan FSA in accordance with the Guidelines on External Service Arrangements for Labuan Financial Institutions.The Appointed Actuary, amongst others, must take reasonable steps to avoid actual and potential conflicts of interest in the course of carrying out his duties.

7.7 Pursuant to Section 193 of LFSSA, Labuan FSA may remove an Appointed Actuary of a Labuan insurer if it reasonably believes that the Appointed Actuary is not carrying his roles and responsibilities in line with the requirements or the spirit intended by the Guidelines.

Duties and Responsibilities of the Appointed Actuary

7.8 The Appointed Actuary must:

(i) Certify that the valuation of actuarial and other policy liabilities is in accordance with:

(a) generally accepted actuarial principles and practices; and

(b) valuation principles, methods and assumptions set out in the Guidelines;

(ii) Provide recommendations to the Board on the appropriateness of surplus distribution to policyholders as well as any relevant distribution to shareholders; and

(iii) Apply the appropriate tests to reasonably satisfy himself of the completeness and accuracy of the current database of business used to perform his duties.

7.9 The report by the Appointed Actuary to the Board and senior management on the matters covered in paragraph 7.8 must include:

(i) a narrative of findings;

(ii) recommendations and conclusions; and

(iii) the basis for those conclusions.

7.10 This must be presented in a manner which clearly explains and gives sufficient prominence to significant issues and developments which have material implications on the life insurance liability valuation and reserving of the Labuan insurer, or the interests of its clients. The Appointed Actuary must be available to respond directly and in a timely fashion, to any questions or issues raised by the Board in relation to his report.

7.11 In relation to paragraph 7.8(i), the report by the Appointed Actuary must draw the attention of the Board to the following:

(i) key trends in the business composition, the portfolio's experience for each class of business and movements in the reserves for actuarial and other policy liabilities;

(ii) any material changes in selected assumptions;

(iii) reasons for any deviation from the assumptions implied by the experience analysis;

(iv) key assumptions in which small changes can cause significant variations in the valuation results; and

(v) significant observations from the analysis of the experience and composition of surplus arising.

7.12 The Appointed Actuary must take appropriate steps to effectively engage the Board and senior management on the results of his investigations into the Labuan insurer's current and expected insurance liability valuation and reserving. The Appointed Actuary must present clearly and discuss directly with the Board, the plausible threats identified by the Appointed Actuary to the insurance liability valuation and reserving of the Labuan insurer, recommendations to address those threats and observed actions of the senior management in response to the recommendations made in the previous year.

7.13 In relation to paragraph 7.8(ii), prior to making any recommendations for surplus or investment income distribution, the Appointed Actuary must consider and be satisfied that:

(i) the proposed distributions among the different groups of policyholders are equitable and are consistent with the reasonable expectations of the policyholders;

(ii) the proposed bonus distributions are sustainable, taking into account the current and future capital needs of the Labuan insurer's operations under a range of circumstances; and

(iii) there has been proper management of participating life policy business.

7.14 The Appointed Actuary must keep adequate documentation of his work to facilitate continuity such that any party reviewing the Appointed Actuary's work would be able to understand his findings, recommendations and conclusions. This includes sufficient detail on:

(i) his engagements, whether written or verbal, with stakeholders;

(ii) the activities carried out as part of his duties, including processes relating to the certification of the valuation of liabilities and recommendations on the distribution of surplus or investment income; and

(iii) the methodology employed to satisfy himself of the accuracy of data used in performing his duties.

Board Oversight over the Appointed Actuary

7.15 The Board must ensure that the duties of the Appointed Actuary are discharged without any hindrance. This includes ensuring that arrangements are in place to:

(i) provide the Appointed Actuary with direct access to the Board;

(ii) keep the Appointed Actuary informed about the Labuan insurer's business plans;

(iii) ensure that the Appointed Actuary is provided with sufficient resources to effectively discharge his duties, including sufficient human resources as well as information technology and other appropriate systems;

(iv) provide the Appointed Actuary with full access rights to relevant records, accounts and any other information of the Labuan insurer; and

(v) enable the Appointed Actuary to request and receive information or explanation from the senior management and officers of the Labuan insurer as necessary.

7.16 Where the Appointed Actuary is to be assigned any other roles, the Board must be satisfied that there will be no conflict of interest. In particular, the role of the Appointed Actuary must be distinct from other executive functions and business line responsibilities. The Appointed Actuary's role must not be combined with other executive functions, i.e. "dual hatting" where the Appointed Actuary also serves as the chief executive officer, chief financial officer, chief operating officer or chief internal auditor. In addition, the Appointed Actuary must not have any management or financial responsibility in respect of business lines or revenue-generating functions.

7.17 The Board is required to review the reports submitted to it by the Appointed Actuary at a sufficiently granular level that enables the Board to form a well-founded view as to whether:

(i) adequate provisions have been made to meet the Labuan insurer's obligations under insurance policies which it has written;

(ii) any major risks or concerns exist which affect the Labuan insurer's insurance liability valuation and reserving;

(iii) business decisions taken or planned to be taken need to be reviewed in light of limitations and alternative conclusions highlighted by the Appointed Actuary; and

(iv) corrective actions recommended by the Appointed Actuary have been implemented adequately.

8.0 Fund Segregation Requirement

8.1 A Labuan life insurer must establish and maintain separate fund for its ordinary life insurance[3] and investment-linked insurance funds.

[3] To be further segregated into non-participating or participating policy.

8.2 For a Labuan life insurer with total gross written premium exceeding USD 10 million, it would need to further segregate between its Malaysian policies and non-Malaysian policies, respectively for its ordinary life insurance and investment-linked insurance funds.

8.3 Notwithstanding paragraph 8.2, a Labuan insurer may maintain one insurance fund if the gross written premium[4] of the smaller fund is less than:

(i) 10% of the Labuan insurer's total gross written premium; or

(ii) USD 2 million,

whichever is lower.

8.4 Should in subsequent financial years, the gross written premium threshold specified in paragraph 8.3 be exceeded, the Labuan insurer must establish and maintain separate funds between its Malaysian policies and non-Malaysian policies.

9.0 Valuation Methodology

9.1 A Labuan insurer must measure the best estimate liabilities gross of reinsurance. The recoveries from reinsurance arrangements, which are to be determined net of any payments to the reinsurer, are to be measured separately.

9.2 In the event that the value of the best estimate liabilities is determined to be negative, a Labuan insurer must not zeroise the best estimate liabilities.

9.3 The Appointed Actuary shall be responsible to determine the level of reserves required, based on his professional valuation of the Labuan insurer's life insurance liabilities, for each fund, using a basis which is no less stringent than that prescribed in the Guidelines.

[4] This refers to the gross written premium of the immediate preceding financial year.

9.4 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 PAD 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.

9.5 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 9.4 on the net cash flows. These cash flows shall, where appropriate, be determined by considering the projected future values of the accumulated amount, at the relevant confidence level.

9.6 In the case of a life policy where the future premiums are indeterminate, the Appointed Actuary shall exercise his 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.

9.7 Other actuarial valuation methods may be used (e.g. retrospective actuarial valuation) where such prospective method as per paragraph 9.4 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.

9.8 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.

9.9 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.

9.10 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.

9.11 Where a life policy cannot be appropriately valued using the basis provided in the guidelines, the Appointed Actuary shall value the policy on a basis approved by the Labuan FSA.

10.0 Coverage

10.1 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 9.3 above.

10.2 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 12.3; 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 12.4.

10.3 The valuation of the non-unit liability of investment-linked policy shall be conducted by a cash flow projection. The cash flow projection shall be conducted using a basis no more favourable than the requirement stipulated in paragraph 9.3 above.

10.4 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 PAD in paragraph 15.1.

10.5 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[5] of these products and/or where the guarantee features are simple and short term in nature[6], 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.

10.6 The principle and methods described in paragraph 10.5 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.

10.7 An extension to a life policy covering contingency of death, survival or critical illness shall be valued in accordance to paragraph 9.3 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

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

[6] 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.

(ii) contingencies other than death or survival, the premium and claim liabilities shall be valued separately in accordance to the Guidelines on Valuation Basis for Liabilities of Labuan General Insurance Business.

10.8 The Appointed Actuary shall consider the following events appropriately in determining the reserves as per paragraph 9.3 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 paragraphs 10.8(i) to 10.8(vi) above, including extensions of life policies, other than those referred to in paragraph 10.7 above.

11.0 Data and Information Used by the Appointed Actuary

11.1 The Principal Officer (PO) of a Labuan insurer is responsible to ensure that the insurer's database is properly maintained so that the data on business in force provided to the Appointed Actuary is accurate and complete.

11.2 The Appointed Actuary shall be given unrestricted access to the database and management shall furnish immediately, upon request, such data and explanation as the Appointed Actuary may require when conducting the valuation of liabilities of the life insurance business.

11.3 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.

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

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

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

11.7 Besides quantitative information, the Appointed Actuary shall also seek qualitative information from the Labuan 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.

12.0 Discounting

12.1 Where discounting is used, a Labuan insurer shall adopt the discounting approach as outlined in paragraph 12 to discount all future cash flows when determining the best estimate liabilities of the insurance contracts.

12.2 The Appointed 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 as well as the actual discounting rate used.

12.3 The base risk-free yield curve, with an adjustment where relevant 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.

12.4 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 (5) years' net investment returns on the participating fund.

The base risk-free yield curve

12.5 The base risk-free yield curve for discounting cash flows is determined based on a three-segment approach and the parameters to be used will depend on the currency denomination of the cash flows, as set out in **Appendix III**.

Segment	Durations covered	Methodology & parameters for setting rates
1	Up to the duration of the last liquid point (LLP)	Rates set based on market information of government bonds (risk-free yield curve) or swaps with matching duration, where available. Where market information is not available, the rates are to be interpolated using the Smith-Wilson method.
2	After the LLP till the start of the third segment	Rates extrapolated from Segment 1 using the Smith-Wilson method. The principles for determination of alpha parameter, which determine the speed of convergence between the LLP and long-term forward rate (LTFR), are as below: a) Determine the lowest possible alpha which would result in the difference between the extrapolated rate at the commencement of Segment 3 and the LTFR being no more than 0.001%; b) The lowest possible alpha determined in a) shall be rounded to the nearest 0.05; and c) subject to a floor of 0.1.
3	Start from the later of the following:	Rates determined by applying the LTFR.

Segment	Durations covered	Methodology & parameters for setting rates
	• 30 years after the LLP • 60 years	

Example: For Malaysian ringgit denominated cash flows, the market information up to the LLP of 15 years refers to the zero-coupon spot yield of Malaysian Government Securities (MGS) for insurance contracts and the LTFR is 5%. The MGS zero coupon spot yields shall be obtained from a recognised bond pricing agency in Malaysia, or any other recognised sources as may be specified by Labuan FSA.

12.6 In the event that the parameters for derivation of the base risk-free yield curve are not available in **Appendix III**, the equivalent yield in the country where the liabilities were derived from or any other appropriate rate deemed suitable with the nature of the Labuan insurer's insurance liabilities may be used as the risk-free rate for discounting the non-Malaysian risks as determined by the Appointed Actuary.

Adjustments to the base risk-free yield curve

12.7 In addition, a Labuan insurer may apply a positive adjustment to the base risk-free yield curve e.g. in the form of volatility adjustment, illiquidity premium or matching adjustment, as determined by its Appointed Actuary.

12.8 Adjustments can only be considered for contracts with highly predictable cash flows. A Labuan insurer is also required to have in place a clear governance structure and robust internal policies and procedures to ensure continuous adherence to the criteria when applying the adjustment to base risk-free yield curve.

12.9 The adjustment approach shall be based on the outcome of the assessment by the Appointed Actuary, taking into account Labuan insurer's business nature, type of insurance products, the level of predictability of cash flows and degree of matching between assets and liabilities etc., where relevant.

12.10 The Appointed Actuary is responsible to ensure the appropriateness of the adjustment, periodic confirmation of continuous adherence to the adjustment criteria set by the Labuan insurer and proper disclosure in the Report. In this regard, a Labuan insurer is required to disclose the adjustment made to the discounting rate in the Report which include, amongst others, the following:

(i) The adjusted discounting rate

(ii) The method of adjustment chosen with justification

(iii) Fulfilment of conditions prior to the application of the adjustment

(iv) Confirmation of continuous adherence to the criteria for applicability of the adjustment on a periodic basis

12.11 Labuan FSA reserves the right to direct Labuan insurer to discontinue or modify its adjustment approach based on its supervisory assessment of the Labuan insurer concerned.

13.0 Expenses

13.1 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.

13.2 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. All projected expected expenses shall be recognised in the valuation.

14.0 Mortality and Morbidity

14.1 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.

14.2 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.

15.0 Persistency

15.1 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.

15.2 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.

16.0 Methods of Evaluating PAD

16.1 The PAD 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.

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

16.3 In estimating PAD, the Appointed Actuary may have regard to relevant findings in recent actuarial research or literature, if this is deemed to be appropriate. If

PADs 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.

17.0 Reinsurance Recoveries

17.1 A Labuan insurer must determine the expected net recoveries from reinsurance arrangements for each underlying contract by projecting the expected future cash flows arising from the reinsurance arrangement.

17.2 In determining the amount of recoveries from the reinsurance arrangement, a Labuan insurer must:

(i) assess the substance of the reinsurance arrangement in place by considering the reinsurer's contractual obligations to the Labuan insurer. This must include an assessment on renewability of the reinsurance contract and reviewability of the reinsurance premiums; and

(ii) incorporate all relevant expected future cash flows, based on the assessment carried out under paragraph 17.2 (a), including future payments to the reinsurer, in relation to the particular underlying contract.

17.3 In estimating the future cash flows for the reinsurance arrangement, a Labuan insurer shall:

(i) use assumptions that are consistent with those used to estimate the future cash flows of the underlying insurance contract; and

(ii) take into account the risk of counterparty default.

17.4 Where it is not practical for a Labuan insurer to explicitly determine the expected net recoveries from reinsurance arrangements for each underlying contract according to paragraph 17.1 and the Labuan insurer uses a simplified method to derive the expected net recoveries from reinsurance arrangements, this must be documented. For instance, for some reinsurance arrangements which are non-proportional, the net reinsurance recoveries may be derived as the difference between gross and net best estimate liabilities.

18.0 Actuarial Valuation Report

18.1 The investigation on the value of the Labuan life insurance liabilities by the Appointed Actuary shall be submitted as a report to the Board and senior management and shall be referred to as “The Report on Actuarial Valuation of Liabilities of Life Insurance Business” (the Report). The Appointed Actuary shall also disclose the extent of compliance with the requirements of the Guidelines 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 I**. In addition, further details to the Report as per **Appendix I(a)** shall be maintained by the insurer. Labuan FSA may require for these additional information to be submitted as part of its supervision and monitoring of the insurers.

18.2 The primary responsibility for the adequacy of the valuation of insurance liabilities rests with the Board and senior management. The Board and the senior management are expected to discuss the results of the Report with the Appointed Actuary, including any non-compliance with the Guidelines. The Board is also expected to ensure proper and timely actions are undertaken based on these results.

A. Presentation of the Valuation

18.3 The Appointed Actuary shall provide relevant supporting documents, worksheets and other information, with sufficient details on his estimations of the value of liabilities of life insurance business as appendices to the Report, such that any other suitably experienced actuary may verify the results independently.

B. Certification of the Valuation

18.4 The Report shall be signed by the Appointed Actuary and the PO or his authorised signatory.

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

18.6 The Report shall be submitted to the Board annually, no later than three (3) months after the end of each financial year; and the Board as well as senior management should discuss with the Appointed Actuary the results of his valuation.

C. Reporting

18.7 Labuan insurers are required to submit the Report to Labuan FSA within six (6) months from the financial year end together with the annual audited financial statements or on other such date as may be requested by Labuan FSA**.** The Report shall be submitted to the following:

Director
Supervision and Enforcement Department
Labuan Financial Services Authority (Labuan FSA)
Level 17, Main Office Tower
Financial Park Complex
87000 Federal Territory of Labuan, Malaysia

Telephone no: 03-8873 2000
Facsimile no: 03-8873 2209
Email: *sed@labuanfsa.gov.my*

18.8 Notwithstanding this, Labuan insurers are required to maintain a pro-forma valuation in the interim periods (e.g. half-yearly basis) which may be part of statutory returns and subject to supervisory review by Labuan FSA. The presentation of the valuation shall be in accordance with **Appendix II**, **Appendix II(a)**, **Appendix II(b)** and **Appendix II(c)**.

18.9 The Appointed Actuary is required to report to Labuan FSA immediately any significant findings uncovered in his valuation of the Labuan insurer's insurance liabilities that can impair the Labuan insurer's insurance liability valuation or reserving condition.

Labuan Financial Services Authority
24 August 2022 (Revised)
1 September 2015

Appendix I

The Report on Actuarial Valuation of Liabilities of Life Insurance Business for the Year Ended dd/mm/yyyy

Name of Insurer/Reinsurer : ________________________________

Name of Appointed Actuary : ________________________________

Qualification(s) : ________________________________

Section A: Business Profile

1. Describe the company's business portfolio and comment on any significant changes in composition of business.
2. Describe the current reinsurance arrangements. This may include matters such as:
    - The structure of reinsurance arrangements, the affected blocks of business and share of participating reinsurers.
    - Any significant changes to the programme over recent years.
    - Consideration of the potential risk of default of reinsurance recoveries based on publicly available information.

Section B: 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 C: 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 10.7 and 10.8 of the Guidelines.
   - Describe any policy or extension of a policy that would be treated as an asset at the fund level.
   - Provide details of any changes to the valuation methods used since the last valuation.

2. Valuation of Provision of Adverse Deviation (PAD) :

   - Describe the methods for the derivation of the PAD for the relevant valuation parameter.
   - Describe the methods for the derivation of PAD 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 II and Appendix II(a)**.
   - Comment on the level of sufficiency of the reserves.

Section D: 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 E: Surrender and Paid-up Value Basis

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

Section F: Others

1. Document the extent of compliance to the requirements of the guidelines 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. 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 change in valuation methodology and any issues highlighted by the analysis of surplus (in the format as prescribed in **Appendix II(b) and Appendix II(c)**.

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 Labuan FSA 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 Principal Officer (PO)

The PO 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 : ______________

Principal Officer

Appendix I(a)

Supporting Information to the Report on Actuarial Valuation of Liabilities of Life Insurance Business

Supporting Worksheets and Appendices

1. Summary of Information:

    - Prepare a detailed summary of all the data and other information used to conduct the valuation, including:
        - number of policies;
        - sum insured;
        - bonus; and
        - premiums.

2. Other Supporting Documents:

    - The following valuation tables shall be attached:
        - risk discount rates (or equivalent risk-free rate for non-Malaysian policies)
        - mortality/morbidity and other risk rates; and
        - persistency rates

3. Workings on Valuation Method:

    - The workings of each valuation methodology should be sufficiently detailed and transparent to enable another actuary to review the adopted methodology.

Appendix II

Summary of Valuation Result

Life Insurance Liabilities

		Non-Participating ordinary life fund	Investment-linked operating/non-unit fund	Participating ordinary life fund	Non-participating annuity fund	Participating annuity fund
(a)	Gross best estimates					
(b)	PAD					
(c)	Gross reserves[7] [(a) + (b)]					
(d)	Net reinsurance recoveries					
(e)	Net liability [(c) - (d)]					
Comparison of Par valuation bases						
	Net liability on Total Benefit basis					
	Net liability on Guaranteed Benefit basis (incl. PAD)					
	Future bonuses					

[7] Negative reserves occur when the premium income exceeds the benefits and expenses over the remainder of the policy

Appendix II(a)

Life insurance fund: Composition of Valuation Liabilities (Product Wise Details for FYE only)

[For submission purposes, any column that is not applicable for reinsurance companies should be marked as “Not Applicable” (NA) e.g. no. of lives covered, surrender value, etc.]

No.	Description	Particulars of polices									Expected Present Value Statistics						Reinsurance	Net Liability
		No. of policies		No. of lives covered		Sum assured		Vested Bonus	Annual Office Premium	Surrender Value	Benefits	Expenses	Premiums	Gross Best Estimate Reserves	PAD	Gross Reserves	Net Reinsurance Recoveries	
		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 II(b)

Valuation Result, Allocation and Movement of Surplus

				Non-participating ordinary life fund	Investment-linked operating/non-unit fund	Participating ordinary life fund	Non-participating annuity fund	Participating annuity fund	Total
A	**Valuation result**								
	1	Policyholders' fund carried forward[8]							
	2	Net liabilities under polices[9]							
	3	Surplus/Deficit [A(1) – A(2)][10]							
B	**Allocation to Policyholders and Shareholders' Fund**								
	1	Allocation to Policyholders:							
		a)	Interim Bonus[11]						
		b)	Cash Bonus[12]						
		c)	Reversionary Bonus[12]						
		d)	Terminal Bonus[12]						
	2	Allocation to shareholders' fund[12]							
	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[12]							
	6	Unappropriated surplus carried forward [C(1) + C(2) + C(3) – C(4) – C(5)]							

8 Before allocation of S/H and/or Other Fund
9 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
10 For allocation to Shareholders, Other Fund and/or Carried Forward
11 Financial Year End (FYE) submission only

Appendix II(c)

Source of Surplus Arising

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

Appendix III

Parameters for Derivation of the Base Risk-free Yield Curve

The parameters to be used to derive the base risk-free yield curve are as set out in the table below.

Currency		Market information to be used as input to Segment 1	Last liquid point (LLP) (years)	Long-term forward rate (LTFR)
AUD	Australian Dollar	Government Bonds	30	3.8%
BRL	Brazilian Real	Government Bonds	10	7.0%
CAD	Canadian Dollar	Government Bonds	30	3.8%
CHF	Swiss Franc	Government Bonds	20	2.8%
CLP	Chilean Peso	Swaps	10	5.0%
CNY	Yuan Renminbi	Government Bonds	10	6.0%
COP	Colombian Peso	Swaps	10	6.0%
CZK	Czech Koruna	Swaps	15	3.8%
DKK	Danish Krone	Swaps	20	3.8%
EUR	Euro	Swaps	20	3.8%
GBP	Pound Sterling	Swaps	50	3.8%
HKD	Hong Kong Dollar	Swaps	15	4.4%
HUF	Forint	Government Bonds	15	6.0%
IDR	Rupiah	Swaps	10	8.0%
ILS	New Israeli Shekel	Swaps	20	4.4%
INR	Indian Rupee	Swaps	10	7.0%
JPY	Yen	Government Bonds	30	3.8%
KRW	Won	Government Bonds	20	4.4%
MXN	Mexican Peso	Government Bonds	20	5.0%
MYR	Malaysian Ringgit	Government Bonds	15	5.0%
NOK	Norwegian Krone	Swaps	10	3.8%
NZD	New Zealand Dollar	Swaps	20	4.8%
PEN	Sol	Swaps	10	6.0%
PHP	Philippine Peso	Swaps	10	7.0%
PLN	Zloty	Government Bonds	10	5.0%
RON	Romanian Leu	Government Bonds	10	5.0%
RUB	Russian Ruble	Swaps	10	7.0%
SAR	Saudi Riyal	Swaps	15	6.0%
SEK	Swedish Krona	Swaps	10	3.8%
SGD	Singapore Dollar	Government Bonds	20	3.8%
THB	Baht	Government Bonds	10	5.0%
TRY	Turkish Lira	Government Bonds	10	7.0%
TWD	New Taiwan Dollar	Government Bonds	10	4.4%
USD	US Dollar	Government Bonds	30	3.8%
ZAR	Rand	Government Bonds	30	7.0%

Source: International Association of Insurance Supervisors (IAIS)

These parameters are subject to periodic review by the IAIS. The updated parameters will be published on the Insurance Capital Standards section of the IAIS website. A Labuan insurer would be expected to ensure that the latest parameters are used when conducting the valuation of insurance liabilities.