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NOTICE ON VALUATION OF POLICY LIABILITIES OF LIFE BUSINESS

[Note: This Notice should be read in conjunction with the Insurance (Valuation and Capital) Regulations 2004 (G.N. No. S 498/2004) and MAS Notice 129.]

Introduction

1 This Notice is issued pursuant to section 64(2) of the Insurance Act (Cap. 142) ["the Act"] and comprises both mandatory requirements and guidelines on the valuation of policy liabilities in respect of life business and the reporting of such valuation.

2 This Notice applies to any insurer (except a captive insurer) which is for the time being licensed under section 8 of the Act in respect of life business.

3 This Notice sets out the following in two parts:
- (a) Part I – Mandatory requirements on the valuation of policy liabilities relating to the life business of a licensed insurer;
- (b) Part II – Guidelines on—
  - (i) valuation of policy liabilities relating to the life business of a licensed insurer; and
  - (ii) the preparation of the actuarial investigation report by the actuary.

4 While any deviation from the guidelines set out in Part II of this Notice does not of itself amount to an offence under the Act, the Authority may consider such deviation as one of the factors in determining whether the insurer should be subject to additional supervisory requirements as a result of the increased risk in the operations of the insurer, including a fund solvency or capital adequacy requirement which is higher than those prescribed under section 18 of the Act.

5 [Deleted by MAS 319 (Amendment) 2013]

Definitions

6 For the purposes of this Notice:

"Accounts Notice" means MAS Notice 129;

[MAS 319 (Amendment) 2018]

"Accounting Standards" means the accounting standards made or formulated by the Accounting Standards Council under Part III of the Accounting Standards Act 2007 and applicable to companies and to foreign companies in respect of their operations in Singapore for the purposes of the Companies Act;

"appointed actuary" means a person appointed under section 31(1)(b) of the Act;

"certifying actuary" means a person appointed under section 31(1)(c) of the Act;

"expected future payments" includes guaranteed and non- guaranteed benefits, management and distribution expenses, and reinsurance premiums;

"expected future receipts" includes future premiums, charges and fee income, and reinsurance recoverables;

"life insurer" means an insurer licensed to carry on life business;

"risk-free discount rate" means the interest rate determined in the manner described in Annex A of this Notice;

"valuation date" means the date on which the valuation is made; and

"Valuation Regulations" means the Insurance (Valuation and Capital) Regulations 2004 (G.N. No. S 498/2004).

[MAS 319 (Amendment) 2013]

7 The expressions used in this Notice shall, except where expressly defined in this Notice or where the context otherwise requires, have the same respective meanings as in the Act, the Valuation Regulations and MAS Notice 129.

[MAS 319 (Amendment) 2018]

Background

8 The Valuation Regulations stipulate how life insurers are required to value their policy liabilities both at the policy-by-policy level and at the insurance fund level. Generally, valuation involves first a projection of future cash flows using realistic assumptions (including assumptions on expenses, mortality and morbidity rates, lapse rates, etc.), and then discounting these cash flow streams at appropriate interest rates. Additional provision is required in the valuation process to allow for any adverse deviation from the best estimate experience.

9 The Valuation Regulations provide that the policy liability for any single policy (be it a participating policy, a non-participating policy or an investment-linked policy) is the sum of the value of expected future payments less expected future receipts arising from the policy (i.e. the best estimate or "BE") and any provision made for any adverse deviation from the expected experience ("PAD"). For participating policies, the liability in respect of each policy shall include the value of expected future payments arising from both guaranteed and non-guaranteed benefits of the policy.

10 According to the Valuation Regulations, the policy liabilities of a non- participating fund or an investment-linked fund is calculated by aggregating the policy liabilities of all policies in the fund. For a participating fund, the policy liabilities of the fund is taken to be:

(a) sum of the liability in respect of each policy of the fund;
(b) minimum condition liability (which represents the value of guaranteed benefits); and
(c) policy assets (which represents the value of assets backing the policy liabilities),

whichever is the highest.

11 Requirements on the treatment in relation to reinsurance and the derivation of the amount of the participating fund allocated by way of bonus to participating policies are specified in the Valuation Regulations.

12 Part I of this Notice describes the additional mandatory requirements of a technical nature that the person conducting the valuation of policy liabilities of life business has to comply with, while Part II(i) provides technical guidance for persons conducting the valuation of policy liabilities relating to life business.

13 Section 37(1)(a) of the Act requires an insurer to have an investigation made into its financial condition for each accounting period by an actuary appointed with the approval of the Authority. Such investigation involves the valuation of the insurer's policy liabilities. Part II(ii) of this Notice provide guidance on the information that should be disclosed when an actuary prepares the full actuarial investigation report.

[MAS 319 (Amendment) 2013]

Part I – Mandatory requirements on the valuation of policy liabilities relating to the life business of a licensed insurer

14 A life insurer shall ensure that its appointed actuary or certifying actuary, as the case may be complies with paragraphs 15 to 17 of this Notice in the valuation of policy liabilities relating to life business of the life insurer.

[MAS 319 (Amendment) 2013]

Valuation requirement

<u>Discount rates</u>

15 The risk-free discount rate shall be used in determining —

(a) the liability in respect of a non-participating policy;
(b) the non-unit reserves of an investment-linked policy; and
(c) the minimum condition liability of a participating fund.

16 The best estimate investment returns shall be used as the discount rates in determining the liability in respect of a participating policy. This best estimate investment return is derived based on the expected investment returns of assets backing the policy liabilities of the participating fund.

<u>Non-guaranteed benefits</u>

17 For the purposes of the Valuation Regulations, when calculating "non-guaranteed benefits", an insurer shall include projected future allocations to participating policies by way of bonuses or dividends and to the surplus account of the participating fund. The level of non-guaranteed benefits assumed in the valuation shall take into account the policy assets of the participating fund and the insurer's internal policy on bonus allocation.

[MAS 319 (Amendment) 2013]

Effective date and transitional provision

17A This Notice shall come into effect on 1 January 2019.

17B Notwithstanding paragraph 17A, an insurer need not comply with this Notice and shall instead comply with MAS Notice 319 (Notice on Valuation of Policy Liabilities of Life Business) in force immediately before 1 January 2019 in respect of statements of accounts and other statements that are required under the Insurance (Accounts and Statements) Regulations 2004 to be lodged with the Authority, for—

(a) the quarter beginning on 1 October 2018 and ending on 31 December 2018;

(b) the accounting period beginning from the commencement of the insurer's business in Singapore in 2018 or on 1 January 2018 (as the case may be) and ending on 31 December 2018; and

(c) the insurer's financial year beginning on any day between 1 January 2018 and 31 December 2018 (both dates inclusive).

[MAS 319 (Amendment) 2018]

Part II (i) — Guidelines on the valuation of policy liabilities relating to the life business of a licensed insurer

Data and Valuation System

18 The data used in the valuation should be appropriate. An insurer should take the necessary steps to verify the consistency, completeness and accuracy of the data collated.

[MAS 319 (Amendment) 2013]

19 The data used in the investigation should be consistent with the data collated to the audited accounts. Any weaknesses in the data should be adjusted for.

20 The valuation system used in the calculation of policy liabilities should apply the methods and assumptions correctly.

Valuation Methodology

General approach to be taken by the life insurer

21 In determining the liability in respect of a policy relating to the life business of the insurer (other than the unit reserves of the investment-linked policy), an insurer should derive the value of expected future payments less expected future receipts using a discounted prospective cash-flow method.

[MAS 319 (Amendment) 2013]

22 The discounted prospective cash flow method requires explicit projection of expected future payments and receipts over the durations of the policy. This should include, where applicable, the following parameters:
(a) mortality and morbidity benefits;
(b) survival and maturity benefits;
(c) surrender benefits;
(d) distribution costs;
(e) management expenses;
(f) claims expenses if not already included as part of management expenses;
(g) premiums payment to and claims recoveries from reinsurance counterparty;
(h) cost of options.

23 Parameters that are immaterial to the valuation of policy liabilities may be excluded from being included explicitly in the projection.

24 The assumptions used in the projection should be based on the best estimate assumptions and in accordance with paragraphs 29 to 41 of this Notice.

25 Further allowance for the uncertainty of the best estimate value derived above will be provided through the PAD. The PAD should be derived using the same method outlined above but with more conservative assumptions containing a buffer against fluctuations of the best estimate experience.

26 The PAD should be derived in accordance with paragraphs 42 to 44 of this Notice.

Approximations and simplified methods

27 Where model points representing groups of homogeneous insurance policies are used in determining policy liabilities, goodness of fit tests should be conducted to ensure the appropriateness of approximations used and the approximations do not lead to any understating of policy liabilities.

28 Simplified methods may be used for products that are immaterial, products that are not of a long term guaranteed nature or yearly renewable term products. Where simplified methods are used in determining policy liabilities, the actuary should ensure that the use of such methods are appropriate and do not lead to any understating of policy liabilities.

Valuation Assumptions

Best Estimate

29 The expected future payments and receipts should be determined using best estimate assumptions for all relevant parameters.

30 The best estimate assumptions made should have regard to the experience of the insurer, with particular reference to significant aspects of recent experience.

Expenses

31 Separate assumptions should be identified for the distribution expenses and management expenses. Management expenses should include maintenance and claims handling expenses, based on the insurer's actual recent experience.

32 If the future experience is likely to be different from actual experience, allowance should be made for any potential deterioration or improvement in the future experience relating to management expenses. However, any allowance for the improvement in the projected management expenses should be supported by strong justification and should be based on projections not extending beyond 3 years from the valuation date.

Inflation Rate

33 The inflation rate should be factored into the projection of the management expenses.

34 Standard inflation is not specific to an insurer's portfolio. It is an external factor operating in the economy at large. It is appropriate to refer to publicly available information on historic wage and price inflation and economists' forecasts to estimate the future wage and price inflation rates.

Mortality and Morbidity

35 There may be an insufficient amount of claim experience data on which to reliably derive the best estimate assumptions. Partial or full weight may be given to assumptions drawn from industry data, if satisfied that such an approach is appropriate.

36 The mortality and morbidity assumptions should be broken down into appropriate grouping by sex and smoking status according to the way the premium rates are differentiated.

37 Where there are selective lapses by healthy lives for certain types of guaranteed renewable products, the deterioration of mortality and morbidity experience after the renewal of these policies should be factored in.

Lapse and Surrender rates

38 In the selection of the expected lapse and surrender rates, the insurer's experience data should be considered. The changing company practices and market conditions that may affect the lapse and surrender pattern of the policies in the future should also be taken into account.

39 Regard should be had to guaranteed renewable products where the lapse rates are likely to show a sudden and temporary increase when the premium rates are increased at renewal date.

Bonus and Dividend Rates

40 The future bonus and dividend rates assumed in the valuation should take into account the policy assets and bonus policy of the participating fund.

41 In setting the bonus and dividend rates, reference should be made to the latest bonus investigation study that supports the derivation of the current applicable bonus and dividend rates, and consider the fairness and equity among different policies.

Provision for Adverse Deviation (PAD)

42 The PAD is the component of the value of the insurance liabilities that relates to the inherent uncertainty in the best estimate experience. As the PAD represents an additional component of the

liability value, it is therefore aimed at ensuring that the value of the insurance liabilities is established at an adequate level.

43 In the valuation of any policy that provides accident and health benefits, the life insurer should calculate the PAD in respect of the part of the policy relating to accident and health benefits based on the 75 per cent level of sufficiency.

44 Where approximations and simplifications are made, there should be additional PAD to ensure that such methods do not understate the policy liabilities.

Part II (ii) — Guidelines on the preparation of the actuarial investigation report ["the report"]

45 On the data and valuation system used, the following should be presented by the actuary in the report:
(a) the steps taken by him to verify the consistency, completeness and accuracy of the data collated;
(b) where he has made any adjustment to the data is made, the nature, amount and rationale for such adjustment;
(c) the steps taken by him to review the accuracy of the valuation system; and
(d) a statement of policies and premiums, inserted as an appendix, to provide a synopsis of the data used in the valuation for each insurance fund. (The recommended content for the statement of policies and premiums is given in Annex B.)

46 In relation to the valuation methodology, the actuary should —
(a) explain the method used for carrying out the valuation; and
(b) disclose any approximation or simplifications made.

47 With regard to valuation assumptions, the actuary should —
(a) state clearly the key assumptions used in the valuation;
(b) explain how the assumptions are derived;
(c) where the bonus and dividend rates assumed in the valuation are different from the current scale or the scale supportable by the latest bonus investigation study —
  (i) disclose such current or supportable bonus scale alongside the assumed bonus and dividend rates; and
  (ii) explain any material difference between the assumed rates and the current supportable rates;
(d) briefly explain the bonus policy of the insurer, which shall include the following matters:
  (i) the number of years' premiums to be paid, the duration for which the policy has been in force, and other conditions to be fulfilled, before a bonus or dividend is declared;
  (ii) whether the bonus is allocated in respect of each year's premiums paid, or in respect of each completed calendar year or year of insurance or, if not, how the bonus is allocated; and
  (iii) whether the bonus vests immediately on allocation or, if not, the conditions for vesting;
(e) disclose and justify the method used in deriving PAD; and
(f) disclose and justify any material change in assumption from the previous valuation exercise, and quantify the financial implication arising from such change.

48 The actuary should include in his report an analysis of the experience in respect of life business of the insurer to review the assumptions used in the previous valuation against the actual experience emerging during the year. If there are material differences between the emerging experience and the previous valuation assumptions, the actuary should justify the difference and explain how that has been reflected in the current valuation assumptions.

49 The actuary should present a detailed valuation result for each product type as an Appendix to the report. Where there has been some aggregation made to value a group of products, the actuary should show the grouping of the aggregation.

50 The actuary should disclose the extent to which he has deviated from the guidelines set out in Part II of this Notice and explain the rationale of such deviation.

51 The actuary should state in the report his name, professional qualifications and, where the actuary is an employee of the insurer or a related corporation, the capacity in which he is carrying out the investigation.

*Notes on history of amendments

1 MAS 319 (Amendment) 2007 with effect from 10 January 2007

2 MAS 319 (Amendment) 2012 with effect from 17 May 2012

3 MAS 319 (Amendment) 2013 with effect from 22 April 2013

4 MAS 319 (Amendment) 2018 with effect from 19 December 2018

Annex A

Determination of Risk-free Discount Rate

1 The risk-free discount rate shall be used in valuing liabilities in respect of non-participating policies, non-unit reserves of investment-linked policies, as well as the minimum condition liability of participating funds for the purpose of statutory reporting required under the Accounts Notice.

[MAS 319 (Amendment) 2018]

2 [Deleted]

[MAS 319 (Amendment) 2018]

2A [Deleted]

[MAS 319 (Amendment) 2018]

3 When valuing Singapore Dollar denominated liabilities for the purposes of statutory reporting under the Accounts Notice and subject to paragraph 4, “risk-free discount rate” means—

(a) where the duration of a liability is 15 years or less, the market yield of the SGS of a matching duration as at the valuation date;
(b) where the duration of a liability is more than 15 years but less than 20 years, a yield that is interpolated from the market yield of the 15-year SGS and a stable LTRFDR; and
(c) where the duration of a liability is 20 years or more, a stable LTRFDR.

[MAS 319 (Amendment) 2018]

3A For the purposes of paragraph 3(c), the life insurer shall ensure that the actuary calculates the stable LTRFDR according to the following procedure:
(a) compute the average daily closing yield of the 15-year SGS since its inception;
(b) compute the average daily yield differential between the 15-year and 20-year SGS since the inception of the 20-year SGS;
(c) derive an estimated long-term yield by adding the values obtained under sub-paragraphs (a) and (b);
(d) compute the prevailing average daily closing yield of the 20-year SGS over the past 6-month period;
(e) allocate 90% weight to the estimated long-term yield under sub-paragraph (c), and 10% weight to the prevailing average yield under sub-paragraph (d), and round-up the figure to the nearest 10 basis points to arrive at the LTRFDR.

4 Where an insurer implements an effective cash flow hedge or fair value hedge as defined under FRS 109 of the Accounting Standards, the insurer may elect to use the market yield of the SGS of a matching duration as at the valuation date for valuing such hedged Singapore dollar policy liabilities. For the hedged policy liabilities that have a duration exceeding the maximum duration available on the SGS yield curve, the market yield for the maximum duration SGS available shall be used.

[MAS 319 (Amendment) 2018]

5 Where an insurer has elected under paragraph 4 to use the market yield of the SGS of a matching duration, it shall continue to do so as long as the designated liabilities remain a hedged liability as defined under FRS 109.

[MAS 319 (Amendment) 2018]

6 The Authority may at any time require the insurer to produce all necessary documentary evidence of the hedging of such policy liabilities within such time as may be specified by the Authority.

7 For liabilities denominated in a foreign currency, “risk-free discount rate” means the market yields of the foreign government securities of similar duration at the valuation date.

[MAS 319 (Amendment) 2007]
[MAS 319 (Amendment) 2012]

Annex B

Statement as to Policies and Premiums

In relation to paragraph 45 of the Notice, separate statements as to policies and premiums should be made for —

(a) each insurance fund established and maintained by the insurer; and
(b) the situation before and after deduction for reinsurance.

Each of such statement should contain the following particulars:

1. As regards whole life participating and non-participating policies, —
   (a) the total amount insured, showing the amount for each year of life from the youngest to the oldest ages, and (where relevant) the total amount of reversionary bonus; and
   (b) the amount per year of future premium payments, showing the amount for each year of life and distinguishing premiums for which credit is taken in the valuation from extra premiums for which credit is not taken (a separate statement being made as to premiums payable for a limited number of years, classified according to the number of years' payments remaining to be made).

2. As regards endowment policies, —
   (a) the total amount insured for both participating and non-participating policies, showing the amount for each year in which the insurances will mature for payment and (where relevant) the total amount of reversionary bonus; and
   (b) the amount per year of future premium payments, showing the amount for each year in which the policies will mature for payment and distinguishing premiums for which credit is taken in the valuation from extra premiums for which credit is not taken.

3. As regards pure endowment polices, —
   (a) the total amount insured; and
   (b) the amount per year of future premium payments,

   in each case showing the amount for each year in which the policies will mature for payment.

4. As regards to policies not included above —
   (a) the total amount insured for both participating and non-participating policies, as the case may be, showing (where relevant) the total amount of reversionary bonus; and
   (b) the amount per year of future premium payments, distinguishing premiums for which credit is taken in the valuation from extra premiums for which credit is not taken.

   Separate statements shall be made for different types of policies.

5. The total amount of immediate annuities on lives, showing the amount separately for each year of life and distinguishing male and female lives.

6. As regards annuities on lives (other than immediate annuities) —
   (a) the total amount of annuities, showing the amount separately for annuities of different descriptions; and
   (b) the amount per year of future premium payments.